The RUBBER AGE

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The PALMERTON PUBLISHING CO., Inc.

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Happy New Year

IN conformance with the publishing schedule which it adopted eleven years ago, THE RUBBER AGE each year finds one of its issues bearing the date of Christmas Day. Having an issue appear on the exact date around which the entire holiday season centers gives the staff of this journal a particularly good opportunity, and one they particularly welcome, of extending their heartiest greetings to all members of the rubber industry and of the allied businesses that cooperate with it. This they do in all sincerity, and in gratitude for the cordial cooperation which has been shown them during the year.

Happily the approaching New Year bears promise of being an unusually prosperous and untroubled one for the rubber industry. We hope that it may bring also good fortune and happiness for everyone who serves the industry.

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Rubber Trade Ass'n Inaugurates Banquet Season with Lively Dinner

Meeting at Hotel Biltmore on December 15 Upholds Association's Reputation For Enjoyable Annual Dinners—Home Talent is a New Feature of the Program—Col. Donovan to Address Rubber Ass'n—Rubber Exchange Appoints Its Banquet Committee

THE reputation of the Rubber Trade Association of New York for giving highly enjoyable annual dinners was successfully upheld on the evening of December 15 when the 1927 dinner and entertainment was given in the Hotel Biltmore. About 250 members and guests were present. The lively meeting was a testimonial to the vitality of New York's "outside" rubber market and to the strength of the friendships which have been built up in many years' trading in the commodity.

The dinner committee this year was headed by F. B. Peterson, who had as associates L. V. Stiles and J. S. Rodenbough. These gentlemen had not only arranged for an excellent dinner but had also provided a number of pleasing entertainment features.

No Heavy Speechmaking

As is usual at the Rubber Trade Association dinners, heavy speechmaking was omitted in favor of lighter entertainment. This policy is one which the Association has followed for years and which remains popular with the members.

An innovation this year was the inclusion of a high percentage of home talent in the program, which gave the members and guests something more to laugh about, particularly since all the amateurs were well-known to the audience. Messrs. Rodenbough, Peterson, Lewis, Chipman and Manchester were among the performers, most of whom proved to have something to do with close harmony although Mr. Rodenbough proved himself to be no mean soloist. Mr. Manchester took a turn at the drums which was so successful as to call for a lengthy encore and accordingly kept the professional talent waiting on the sidelines.

The City Service Chevaliers, a quartet well-known to audiences in the East by reason of their radio broadcasting, were present in person to oblige with several well-chosen airs. The greater part of the evening was given over to listening to the team of Miller and Farrel, who recently returned from what the chairman said was a triumphant European tour. At any rate, they proved to know a great many songs which the crude rubber traders were glad to hear. A rendering of "On the Road to Mandalay" was greeted with the applause which usually comes from an audience which has visited the East.

F. Pusinelli, president of the Association, presided but he had the able assistance of F. R. Henderson, president of the Rubber Exchange of New York, in making the announcements. Among those at the head table was John Joyce Broderick, Commercial Counsellor of the British Embassy in Washington.

Since the Rubber Trade Association does not have frequent business meetings, the sentiment has been expressed that it could well have more than one Association dinner each year. Of the various dinners given by rubber groups throughout the winter, none is more pleasant that the Rubber Trade Association affair and a movement to provide more frequent social gathering of this group would not be surprising. The informal character of the dinners is always pleasant and many traders who do not otherwise meet frequently, look forward to them with great anticipation.

Rubber Exchange Banquet

The annual dinner of the Rubber Exchange of New York will probably be held on February 15, the anniversary date of the establishment of the Exchange. A dinner committee consisting of J. C. Cuppia, C. T. Wilson and James T. Bryan has been appointed to make the arrangements. The dinner was held last year at the Hotel Roosevelt but the location for this year's event has not yet been named. The Exchange dinner last year was marked by a number of addresses by prominent men, among them being J. Joyce Broderick, A. Harry Moore, governor of New Jersey, and Arthur W. Loasby, president of the Equitable Trust Company of New York.

A photograph taken at the dinner of the Rubber Trade Association is reproduced on the next page.

DONOVAN TO SPEAK AT RUBBER ASS'N DINNER

Col. W. J. Donovan, assistant to the Attorney-General of the United States, will be the chief speaker at the annual banquet of the Rubber Association of America at the Hotel Commodore, New York City, on the evening of January 9. Work for the attorney-general in the field of business and industry has well fitted Col. Donovan to speak on business problems of today.

Rubber Association members and guests who attend the dinner will also have the pleasure of listening again to Reinald Werrenrath, baritone. Other features of the program have not been announced.

The Association's annual business meeting will be held at the Commodore on the morning of January 9.

Crude Rubber Traders Enjoy Annual Banquet

This Photograph Shows a Part of the 250 or More Members and Guests of the Rubber Trade Association Who Attended the Annual Banquet of the Organization on December 15

— Names in the News —

W. D. HINES and MRS. HINES, of the Firestone Plantations Company, are enroute to Liberia where Mr. Hines is a member of the company's executive staff. This will be his fourth trip to Liberia, where he has been one of the pioneers in his company's developments.

H. J. CARROLL, traffic manager of the Goodyear Tire & Rubber Company, Akron, has been elected president of the Akron Traffic Club, and RICHARD BAILEY, traffic manager of the General Tire & Rubber Company was named on the club's board of directors.

J. A. ANDREOLI, export sales manager of the India Tire & Rubber Company, Akron, O., has just returned from a two and one-half months trip to Europe, where he called on India Tire dealers and established several new distributors.

V. N. MORRIS has left the Fixed Nitrogen Research Laboratory to accept a position in the research laboratory of the Firestone Tire & Rubber Company, at Akron.

J. ARTHUR HOUSE, a director of the Goodyear Tire & Rubber Company and president of the Guardian Trust Company, of Cleveland, O., was given a testimonial dinner December 4, in celebration of the tenth anniversary of Mr. House's administration of the bank.

W. E. GREEN, former secretary of the Automobile Manufacturers Association and until recently field secretary of the Motor and Accessory Manufacturers Association, has resigned to devote his entire time to his own business interests, the International Stamping Company.

ANDREW H. NOAH, who recently donated $100,000 to Oberlin College, was formerly president of the Diamond Rubber Company, of Akron, and since its consolidation with the B. F. Goodrich Company in 1912, he has been one of the Goodrich directors.

H. R. BAKER, advertising manager of the Miller Rubber Company, Akron, spoke recently before the Cleveland Advertising Club on the subject of "Dealer Helps." Mr. Baker is the founder of the Akron Advertising Club and its first president.

MARK L. FELBER, publicity director of the Firestone Tire & Rubber Company, was the principal witness before the Federal Trade Commission on December 7 in its investigation into the charge that under current practise in the advertising field, advertisers who do not deal through agencies are being discriminated against. Mr. Felber told the Commissioners that Firestone spends $1,500,000 annually in about 4,500 newspapers, most of the advertising being placed direct or through dealers.

O. D. HOLLENBECK has resigned from the Faultless Rubber Company, Ashland, Ohio. Mr. Hollenbeck has been long in the rubber manufacturing field and at one time was associated with the Firestone Tire & Rubber Company and the Racine Horseshoe Tire Company in production work.

G. M. SPROWLS has been promoted from technical engineer of the highway transportation division of the Goodyear Tire & Rubber Company to be manager of that department, succeeding J. M. LINFORTH, who has been appointed in charge of pneumatic truck tires sales in the Goodyear Export Company.

Michael O'Neil

One of the pioneer merchants of Akron and a prominent leader in the rubber industry, Michael O'Neil, passed away at his home in Akron on December 16. Mr. O'Neil was the father of William O'Neil, president of the General Tire & Rubber Company and was one of the co-founders of the concern. Up to the date of his death, he was active as chairman of the board of directors. He had also been the founder of The M. O'Neil Company, the largest department store of the city, but had retired from the business in 1912 and joined his son in the establishment of the General Tire & Rubber Company in 1915.

Exhibits at Power Show Interest Rubber Factory Engineers

Annual New York Exposition Brings Together Displays of General and Special Equipment Used in Rubber Factories—Many of the Exhibitors Have Sold to the Rubber Trade for Years

THE Sixth National Exposition of Power and Mechanical Engineering, which was held in the Grand Central Palace, New York City, during the week of December 5, was the largest exhibit of its kind that has been shown thus far and drew an enthusiastic crowd. From a standpoint of interest displayed and the wide field of mechanics covered it surpassed all previous Power Shows of former years.

The exposition covered four floors of the huge Grand Central Palace and over 500 exhibitors participated.

Of particular interest to the rubber manufacturing industry were the many machines and mechanical devices for temperature control, driers, indicating and recording instruments, machine parts, and miscellaneous plant equipment including overhead hoists, worm gear reduction units, tire balancing machines and many others. Quite a number of the firms exhibiting have been suppliers of various rubber plant equipment for many years.

The exposition gave an excellent opportunity to the plant engineers and purchasing agents to find improved machinery applicable to the factory needs and to compare machines of similar purpose.

A few of the concerns whose exhibits at the Show were of special interest to rubber manufacturers are listed below with a brief description of the line of equipment offered.

ALLEN & BILLMYRE CO., INC., New York. Tabco industrial pneumatic sweeping systems; stationary and portable vacuum cleaners; air compressors.

AMERICAN SCHAEFFER & BUDENBERG CORP., Brooklyn, N. Y.—Temperature and pressure control and recording instruments, indicating thermometers and gauges.

AMERICAN ENGINEERING CO., Philadelphia.—Lo-Hed electric overhead hoists in 100 to 24,000 lbs. capacity with cord, push-button, remote or cab control.

BARCO MANUFACTURING CO., Chicago, Ill.—Barco flexible joints for platen presses in various types to meet all factory needs; lubricated plug valves.

S. F. BOWSER & COMPANY, INC., Fort Wayne, Ind.—Oil storage and distributing systems for naphtha, gasoline, oils, paints, rubber cements and other liquids; exhibited Xacto meter for accurate measurements of liquids received or used.

BRISTOL COMPANY, Waterbury, Conn.—Recording instruments for pressure, draft fluctuations, steam boiler water level, temperatures, etc., also indicating gauges.

CARRIER ENGINEERING COMPANY, Newark, N. J.—Gordon dryers, high and low pressure heaters, Carrier ejector system dryer; gas furnace; refrigerator system; blowers, air conditioning units, etc.

CHISHOLM-MOORE MANUFACTURING COMPANY, Cleveland, O.—Cyclone high speed hoists, chain and electric from 500 to 12,000 pounds capacity.

CLEVELAND WORM AND GEAR COMPANY, Cleveland, O.—Worm gear reduction units in several types and in 5 sizes from 5 to 1 to 3600 to 1 ratios.

COMBUSTION ENGINEERING CORP., New York—Lopulco pulverized fuel system for steam generating boilers, now used by one of the large Akron tire plants.

COOPER-HEWITT ELECTRIC CO., Hoboken, N. J.—Work-Light industrial lighting system for use in factories.

CRANDALL PACKING COMPANY, Palmyra, N. Y.—Steam, railroad, oil, ammonia, sheet and roll, metallic and belt packings.

FALK CORPORATION, Milwaukee, Wis.—Herringbone gears, speed reducers, flexible couplings, special reducers of single, double and triple units suitable for rubber plant use.

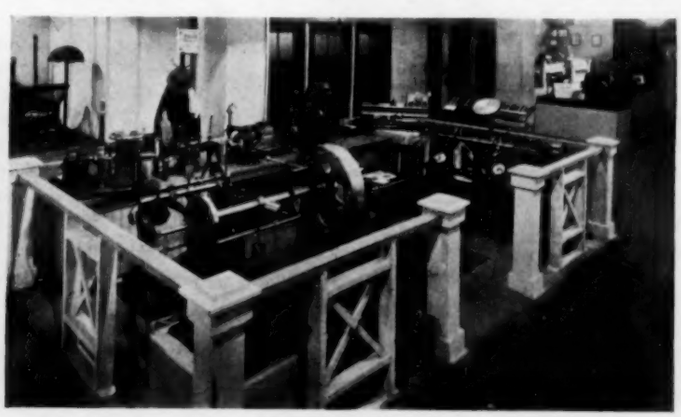
FOOTE BROTHERS GEAR AND MACHINE CO., Chicago, Ill.—IXL HyGrade worm gear speed reducers made in various sizes and styles suitable for rubber factory use; flexible couplings; spur gear reducers; continuous tooth herringbone speed reducers; worm gear reducers; industrial gears.

FOXBORO COMPANY, INC., Foxboro, Mass.—Temperature and pressure recorders and controllers; also showed new steam flow meter with integrator for measuring steam flow.

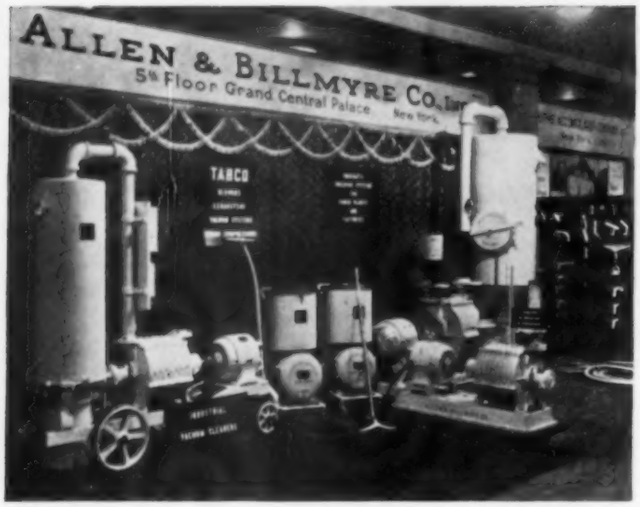
GARLOCK PACKING COMPANY, Palmyra, N. Y.—Complete line of packing for every use; also showed new rubber plugs for condenser tube packing and condenser tube and plugs.

D. O. JAMES MANUFACTURING CO., Chicago,

Booth of Foote Brothers Gear and Machine Co., in Which Several Types of Speed Reducers Were Shown



Booth of Tinius Olsen Testing Machine Co. A New Tire Balancing Machine is Seen in the Foreground



Allen & Billmyre Had on Display Some Representative Types of Their Pneumatic Sweeping Systems Such as Are Used in Many Rubber Plants

Ill.—Speed reducers, gears, pulleys, friction clutches, shaft hangers, ball bearings, couplings, etc.

JENKINS BROTHERS, Elizabeth, N. J.—Valves, gaskets, tubing, steam traps, packing, discs; also showed new car heating gasket.

MOTO METER CO., Long Island City, N. Y.—Industrial indicating thermometers for remote or local reading.

TINIUS OLSEN TESTING MACHINE COMPANY, Philadelphia, Pa.—Automatic weighing static tire balancing machine; new type dynamic balancing machine; automatic weighing connecting rod scale.

PITTSBURGH VALVE, FOUNDRY AND CONSTRUCTION CO., Pittsburgh, Pa.—Valves, steam separators, pipe bends, swedges, etc., Stuart two-pressure valve for use on hydraulic presses.

POOLE ENGINEERING & MACHINE COMPANY, Baltimore, Md.—Flexible couplings, speed transformers, gears, etc.

POWERS REGULATOR COMPANY, Chicago, Ill.—Complete line of automatic temperature control apparatus for rubber mills.

SERVICE RECORD COMPANY, Cleveland, O.—Automatic recorder for time of operation of machinery and trucks.

SHEPARD ELECTRIC CRANE & HOIST COMPANY, Montour Falls, N. Y.—Full line of overhead electric conveying hoists.

SMITH & SERRELL, Newark, N. J.—Francke flexible couplings for motor, turbine and engine drives.

STURTEVANT MILL COMPANY, Boston, Mass.—Crushing and grinding machinery suitable for use in rubber plants.

TAGLIABUE MANUFACTURING COMPANY, Brooklyn, N. Y.—Recorders, dial indicating thermometers, controllers for temperature and pressure, oil testing instruments; also showed new steam operated temperature and pressure controller.

TAYLOR INSTRUMENT COMPANIES, Rochester, N. Y.—Recording and indicating apparatus for temperature and pressure, thermometers, charts, gauges, pyrometers, etc.

TOLEDO SCALE COMPANY, Toledo, O.—Industrial scales in various sizes to meet all needs of the rubber industry.

— Names in the News —

C. LAWRENCE MUNCH, of Watertown, Mass., has been advanced from merchandise manager to footwear sales manager of the Hood Rubber Company, according to a recent announcement. W. W. DUNCAN, manager of distribution, will hereafter devote his entire time to tires which is one of the growing branches of the company's business. Mr. Munch has been with the Hood Rubber Company for ten years in the sales division.

A. C. WALKER, secretary of the Fisk Tire Export Company, has been advanced to the presidency of the company to fill the vacancy caused by the resignation of K. S. Chamberlain, who has joined the Goodyear Tire and Rubber Export Company.

D. D. TRIPP, vice-president of the Pioneer Rubber Mills, joined the hole-in-one club on December 11 at the California Golf Club at Baden. The "ace" was made at the tricky third hole which measures 145 yards.

H. S. LETT, who has been advertising manager of the Faultless Rubber Company for the past 12 years, has accepted an appointment as general manager of M. P. Gould Company, an advertising agency in New York City. L. S. KENDALL, of the sales department of Faultless, will succeed Mr. Lett as head of advertising.

FREDERICK L. LAMSON, at one time associated with the old Diamond Rubber Company and as head of the cost department of B. F. Goodrich Company, and who in 1914 became president of the Norwalk Tire and Rubber Company, has recently been elected president of the consolidation of H. C. Wilbur & Sons Company, of Philadelphia, and the Suchard Company, of Neuchatel, Switzerland, two of the largest chocolate concerns in the world. He has been the active head of the Wilbur Company for some time prior to this present merger.

JACK BOETTNER, the Goodyear ballonist and air pilot, was married on December 10, in Cleveland to Mrs. Helen Houghton Bethel.

CLYDE E. LOWE, president of the Clyde E. Lowe Company of Cleveland, has announced that he will spend all of automobile show week, from January 8, in New York City. Information on the uses and advantages of circular mandrels will be furnished at his headquarters in Suite 254, Hotel Biltmore.

C. EDWARD MURRAY, Sr., president of the Crescent Insulated Wire and Cable Company, Trenton, has been on an extensive gunning trip at Green Pond, South Carolina.

WILLIAM A. HOWELL, superintendent of Whitehead Brothers Rubber Company, Trenton, who has been in a local hospital for several weeks, is recovering at his home.

C. EDWARD MURRAY, Jr., president of the Murray Rubber Company, has returned from a business trip in the middle west. The Murray Company reports business as being normal.

A. C. DORNSEIF has been appointed manager of the tire and tube department of the Murray Rubber Company, Trenton, N. J. He has been connected with the sales department of the Murray company for seven years as factory representative between Louisville, Ky., and St. Louis, Mo., covering sections of Illinois, Missouri, Indiana and Kentucky. His sales topped the list among factory representatives and last August he was made manager of tires and tube sales in the midwest with offices in Chicago. Mr. Dornseif is 35 years old. He was born in Worden, Ill., and was raised there in the hardware business with his father. Before joining the Murray Company he was affiliated with Goodyear Tire & Rubber Company for five years.

JACOB ABRAMS, of Bradley Beach, N. J., formerly owner of the Monmouth Rubber Company, Asbury Park, has been granted a patent at Washington on a tool for the repair of automobile tires.

FRANK R. GRIFFIN, advertising manager of the Seiberling Rubber Company, Akron, has been named as chairman of the advertising committee of the Rubber Association of America.

WILLIAM HOOVER is now connected with the Cord Tire Corporation at Chester, W. Va. Mr. Hoover was formerly with Goodrich and later with Norwalk Tire & Rubber Company.

Five Years of Rubber Restriction

Famous Legislation Starts Sixth Year With Task of Reducing Big Stocks—Many Factors Operating to Keep It From Becoming Fully Effective as Originally Planned

By JOHN P. BUSHNELL

ON November 1 the Stevenson Restriction Scheme entered upon its sixth year of operation. Conceived at a time when crude rubber stocks had accumulated to alarming proportions and the market had fallen to what was considered less than the actual plantation production cost, it was designed to correct both conditions by limiting the supply in more equitable ratio to the current consumption and by stabilizing the price at a figure which would insure the growers a profit. It was hailed by the British plantation interests as the panacea for all their ills and condemned by the American manufacturing industry as an unwarranted interference with the economic law of supply and demand.

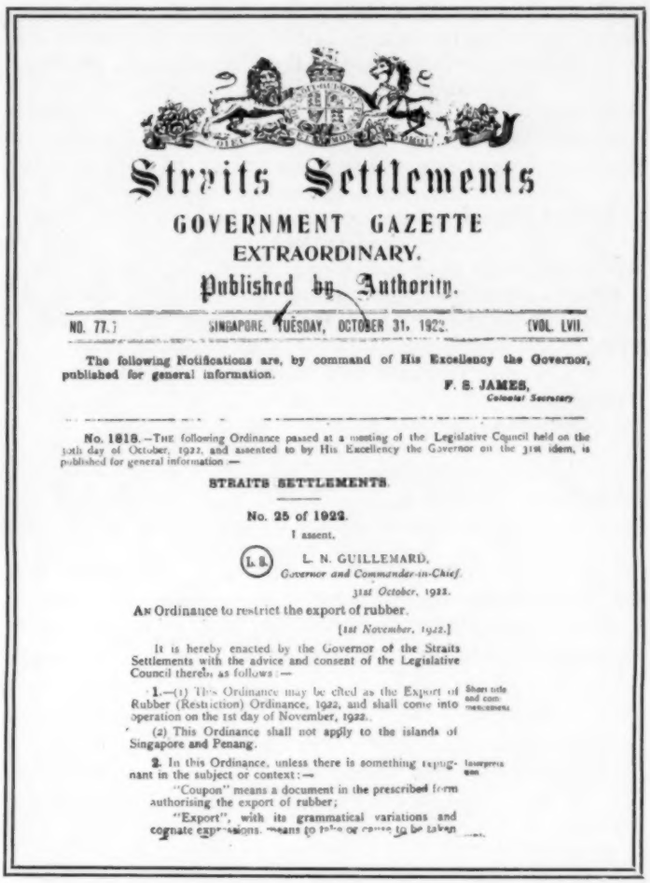
Today the Scheme stands, padded and patched by minor changes, modifications and amendments, imposed over the five years of its legislative existence, a disappointment to its proponents, but still irritant to its disclaimers. That it has failed in its purpose is shown by the fact that crude rubber stocks in London and America are now higher than they were at the advent of the scheme, while the market price during the last year has averaged below the "fair" pivotal price established by the Act. The situation it sought to remedy and avoid it has virtually recreated through the absence of elasticity in the administration of the scheme and the weak manner of its enforcement.

At the beginning of the sixth restriction year, on the first day of last November, still more changes were made in the application of the Scheme. These are principally along the lines of more strict enforcement and do not include any revision of the fundamental provisions. The fault of inelasticity, of operating as punishment instead of a preventative, still remains.

During all the five years that it has been with us, the operation of the Scheme has been so slow that it has sought to apply a remedy after the malady instead of diagnosing symptoms and administering preventives. The most glaring instance of this was in 1924 when although consumption was booming, stocks were being rapidly depleted and prices were climbing, the exportable percentage blandly went in the other direction until at the end of the year no more than 50 per cent of standard production could be exported from Malaya and Ceylon.

In January, 1925, with rubber selling at 36 cents, only 50 per cent of the standard production was exportable. In October of the same year, with rubber having climbed to over a dollar per pound, the exportable allowance had only been possible of advancement to 75 per cent and before the operation of the Act would allow the percentage to go to 100 per cent or full production, the market peak had been reached and prices were again falling. Automatically, however, in view of the prevailing average price in the last quarter of 1925 and first quarter of 1926, the allowable percentage went to 100 per cent in the face of the falling market, and when by all logical reasoning under the Scheme

FIVE YEARS OLD—STILL GOING STRONG



Straits Settlements

GOVERNMENT GAZETTE

EXTRAORDINARY.

Published by Authority.

NO. 77.] SINGAPORE, TUESDAY, OCTOBER 31, 1922. [VOL. LVII.

The following Notifications are, by command of His Excellency the Governor, published for general information.

F. S. JAMES,
Colonial Secretary

No. 1818.—THE following Ordinance passed at a meeting of the Legislative Council held on the 30th day of October, 1922, and assented to by His Excellency the Governor on the 31st idem, is published for general information:—

STRAITS SETTLEMENTS.

No. 25 of 1922.

I assent,

L. S. L. N. GUILLEMARD,
Governor and Commander-in-Chief.
31st October, 1922.

AN Ordinance to restrict the export of rubber.

[*1st November, 1922.*]

It is hereby enacted by the Governor of the Straits Settlements with the advice and consent of the Legislative Council thereof, as follows:—

Short title and commencement.

1.—(1) This Ordinance may be cited as the Export of Rubber (Restriction) Ordinance, 1922, and shall come into operation on the 1st day of November, 1922.

(2) This Ordinance shall not apply to the islands of Singapore and Penang.

Interpretation.

2. In this Ordinance, unless there is something repugnant in the subject or context:—

"Coupon" means a document in the prescribed form authorising the export of rubber;

"Export", with its grammatical variations and cognate expressions, means to take or cause to be taken

The Original Rubber Restriction Act as It Was Gazetted in the Straits Settlements

the exportable allowance should have been reduced. In December, 1926, the price had returned to 38 cents, but the exportable allowance had not kept pace with the price decline and had only been reduced to 80 per cent. It was not until the beginning of the third quarter, May, 1927, that the present minimum allowance of 60 per cent was reached. Today this minimum continues to be in force and the price has continued to show a downward tendency.

The chief original purpose of the Act was to stabilize prices, yet within the period of the five years under the restrictive legislation, the market prices of crude rubber have fluctuated widely and with more spectacular variance than in the days before the inauguration of the Scheme. The very operation of the Scheme has brought about a speculative interest in rubber. The wild scramble for rubber company shares on the London Stock Exchange during 1925 is evidence that the speculative interest was not confined to crude rubber trading.

At the beginning of 1925, London stocks had declined beyond the danger point to 27,172 tons and the London price was 1s. 5d., with the exportable allowance only 55 per cent. Under the Restriction Scheme no increase in this percentage could take place until May and it was not sur-

prising that the market situation attracted the immediate attention of the speculative operators and the public. Speculative purchases of both spot and forward rubbers thus temporarily took supplies off the market which would have ordinarily been absorbed by the manufacturing industry. Instead, through such private speculation, the industry was forced to pay still more to the speculative holders.

But while the fluctuating prices induced by the restriction Scheme has brought plenty of grief to the rubber consumers, particularly to those of the United States who must buy well in advance to cover their huge consumption, the Scheme has also affected the British rubber growers in many undesirable ways, the effects of some of which will probably be permanently felt regardless of future policy.

In the first place, the operation of the Scheme, confined as it is to British possessions, has virtually been a stimulus to the Dutch planters and particularly to native plantings. The latter, with their lower production costs, have been in a highly advantageous position at the expense of the British estates, and the increasing acreage under native development in the Dutch East Indies is fast becoming a source of alarm and anxiety to the British plantation interests. It is difficult to secure any reliable figures on the increase in native plantings, but the gain continues each year. It has been conservatively estimated, however, that the quantity of native dry rubber from the Dutch East Indies rose from 13,000 tons in 1919 to over 80,000 tons in 1926, and that the actual percentage of Dutch native rubber in the total world production rose from 4 per cent in 1919 to nearly 20 per cent in 1926. At the same time that native producers are stimulated to increase their output in this way, they are stimulated to increase their planted areas in order that their income may continue large.

Consumers Turn to Substitutes

The whole attitude of the British government in perpetuating the restriction policy in the face of past conditions has led to no little effort on the part of the manufacturing industry to find substitutes for the more expensive crude rubber. The fact that reclaimed rubber consumed in the United States now amounts to 43.2 per cent of the total of all crude rubber used in the manufacturing industry, as compared to 19 per cent in 1919, should be evidence enough that the American industry is in earnest in its acceptance of substitutes in preference to crude rubber at fancy prices. The use of reclaimed rubber in the United States has increased from 42,500 tons in 1921 to an estimated 180,000 tons in 1927.

In addition to these difficulties in making the Scheme effective, the British have also had to contend with abuses within their own ranks. The most serious one has been over-assessment of standard production. This was due to estate owners claiming, and assessors granting, a much higher assessment for individual plantations that was justified by the actual capacity of the plantation to produce rubber. A decrease in assessments is the principal remedy which the administrators of the Scheme are trying to apply in the current restriction year.

A second abuse concerned export coupons, the export licenses covering the exportable allowance of each estate. On account of their assessments being too high many estates had surplus coupons which they merely held until the exportable percentage had been cut, or disposed of them under cover to other planters who were short. Surplus coupons representing enormous tonnages of rubber have been available in the East to nullify the effect of the tightening of restriction. The term of validity of coupons has now been shortened in an effort of curb this abuse.

Last but not least of the abuses which have arisen to plague the administrators and proponents of restriction has been the smuggling of crude rubber out of Malaya. In spite of severe measures to punish and prevent this smuggling, it has been estimated that 25,000 tons of rubber per year figure in this illicit trade. In the sixth restriction year the anti-smuggling forces are to be strengthened with additional facilities for curbing the smugglers.

In spite of the opposition which they have from without and within, the British show a firm determination to "make restriction work." There is no question that the measure has less British friends than it had during its first year, but the opposition is still in the minority and restriction is assured of a further trial before abandonment is seriously considered. One reason for this is that cancellation of the Scheme would bring its own problems, which may be quite as serious as those now existing.

So it has been a hard five years, full of worry for both sides. Now we have with us the assurance that restriction, originally labelled "temporary," will be continued indefinitely. The lines along which it will operate in its sixth year seem fairly well defined. Will it work any better this year, for either producer or consumer, than it has in the past? Most Americans think not. They do not doubt that restriction can be tightened until another artificial shortage is created, but if that is to be done in a short time, either the exportable percentage will have to be reduced below 60 per cent or consumption will have to take a tremendous jump.

Chicle in Guatemala

THE Department of Agriculture of Guatemala has recently published a summary of the methods and commercial practices observed in the chicle gathering industry of Peten, Guatemala's huge northern state. The best chicle in the world comes from this region, more specifically from around Lake Itza. The tree growing here is called *Achras Chicle Pittier* and it produces rich, white chicle. In a neighboring department another chicle tree, the *Chicubull,* is found, but the chicle it produces is reddish in color and inferior in quality.

Chicle trees are tapped only in the rainy season. The system of tapping corresponds roughly to that used in tapping Castilloa rubber trees. Branches, as well as trunk, are frequently hacked to secure the largest possible flow. The liquid is thickened by heating with juice of native plants and the chicle is finally formed into blocks for shipment.

For gathering one hundred pounds of chicle and taking it to the "hato" or interior collection station of a contractor, the gatherer gets $10, less a discount for moisture which his product may contain. The following is an itemized account of the value in United States currency of a hundredweight of chicle from the "hatos" near Lake Itza down to the wharves at Belize:

Extraction permit and municipal taxes	$2.80
To the chiclero	10.00
Transportation from the hato to the lake	10.00
Transportation on the lake	.50
From Lake Itza to Cayo, British Honduras	10.00
From Cayo to Belize	1.50
Export duties, 0.07 per pound, 100 pounds	7.00
Transit tolls through British Honduras	1.50
Wrapping material	.50
Total	$43.80

These figures show that the cost of chicle increases by about five times from production to point of shipment. The Wrigley Company, for example, is said to pay $48 to $50 per hundredweight for its chicle, f.o.b. Belize. The difference between these figures and the total figure in the above table represents the contractor's margin.

The Cleaning *of* Rubber Floors

Rubber Tiling Manufacturers Continue Search for Effective Cleaning Agent Not Harmful to Floors—All Now in Common Use Have Deleterious Properties

ONE of the outstanding problems confronting the rubber flooring trade today is to find some material or method that will efficiently and effectively clean rubber tiling without having a harmful effect on the finished floor.

Tiling manufacturers, installers, cleaner makers and others, are constantly trying to solve the problem, their experiments ranging from the use of clear, cold water to mild abrasives and from scrubbing machines to dry buffing machines. Usually, those everyday materials that are effective cleaners are harmful to the tiling and those that are not harmful are not satisfactory cleaners. Scrubbing and buffing machines have been found too expensive for use on the average installation and the average installation does not require such special cleaning treatment.

The application of commercial grades of floor wax has not been found desirable with the possible exception of on sun parlor floors where the powerful rays of the sun are somewhat offset by a very light coating of wax. The effect of the wax on the color of the tile and on the rubber itself is in general deleterious and to be on the safe side manufacturers are not recommending its use. Some seem to think that it is fairly satisfactory for small installations in private homes where there is very little dirt to be caught and retained by the wax but is out of the question in locations where there is a great deal of foot traffic direct from the street and consequent trackage. Since wax favors the retention of dirt, its use automatically destroys one of the sales advantages of rubber tiling, namely, that it is non-porous and the dirt lays on the surface and is easily removable.

Ordinary Soap and Powders Injurious

From the outset, the trade realized that the use of ordinary household soaps and cleaning powders was injurious to the rubber and left a film on the surface of the tile. For a time, some people thought that a small quantity of Ivory soap flakes thoroughly dissolved in cold water was the solution of the problem, but time showed that that too, left a soapy film on the tile and eventually caused it to become soft and spongy. Various types of water softeners, such as tri-sodium phosphate, were tried, but were found wanting unless something that would actually do the cleaning were added.

Substances containing varying proportions of caustic, alkali, abrasives, mild chemicals of different kinds, etc., were experimented with. Some proved satisfactory for a time as a cleaner but when used over an extended period roughened the tile, caused checking, dulled or hid the color, or in some other way had a deleterious effect on the floor. Those compounds which would do no apparent harm to the floor were generally only fairly satisfactory as cleaners; some, in addition to other shortcomings, were too expensive for general use, others that might have been suitable for small floor areas were unsuitable for large ones, and vica versa, and others that might have proved satisfactory when used in very sparing quantities had to be discarded because of the natural tendency of the person doing the cleaning to use excessive amounts of the material.

A very weak solution (about 1½%) of cleaners containing free alkali has worked fairly satisfactorily in some instances and did not appear to injure the floor but was not particularly efficient on real dirty floors.

Some people object to the use of scrubbing machines because they believe such treatment has the effect of forcing the water and cleaner into the tile joints. Of course, on small floor areas, aside from the expense, the use of such a machine is out of the question, but on very large installations where there is considerable traffic, this method, with proper care, has obtained quite favorable results.

Dry buffing machines are in about the same class as scrubbing machines from the standpoint of expense, and no harmful effects from their use have been noted so far. Of course, if the home owner or other person who has very little floor area to clean were to elect to buff the tiling by hand it would be a great help but that is too much to hope for.

Cleaning Agents Often Improperly Used

The tiling trade is confronted with another task directly connected with the problem of cleaning agents. That is to make sure that the chosen cleaner or method is used properly. Cases have been found where a cleaning agent containing an abrasive which is supposed to be mixed in water and the water distributed and mopped over the floor is being thrown direct on the tiling and then practically rubbed in with a wet mop, resulting, in time, in roughening the surface and marring the finish.

In the majority of instances it is very difficult to prevent excessive use of the cleaner and to get the average person who does the actual work to follow the manufacturers' recommendations. In this, the cleaning agent manufacturer is as much at fault as the user, because it is very natural for the cleaner salesmen to want to sell as much of the product as possible. The average user, with the possible exception of the housewife who takes particular pride in the upkeep and appearance of her home, wants something that will quickly and with a minimum of effort clean the floor, regardless of the effect on the durability and beauty of the tile, and the cleaner salesmen capitalize that tendency by recommending the use of excessive quantities of his materials. This difficulty is as hard and as important to overcome as to find the ideal cleaning agent.

The net result of the experience of everyone concerned is a rather general opinion that under average conditions of service the most satisfactory and least harmful method is mopping with clear, cold water. On large installations that become quite dirty, however, cold water alone does not meet the demand of the people who do the cleaning for a quick, effective way; in other words, something must be added to help remove the dirt. The *general* use of powders and soaps containing *large* quantities of oils, fatty acids, alkali and abrasives, has not been found advisable, even though some proprietary brands of cleaners containing very minor proportions of some of those ingredients have proven fairly satisfactory in certain locations, so it would seem that the ideal of a combined cleaner-preserver of rubber tile is yet to be found—and then the public will have to be taught how to apply it properly for best results.

TRADE MARK

United States Rubber Company

MAIN OFFICE:

1790 Broadway, New York

Fifty-Three Factories
Branches in all Principal Cities

Manufacturers of All Classes of Rubber Goods, including—

"U. S." ROYAL CORD AND USCO BALLOON TIRES
"U. S." ROYAL CORD AND USCO CORD TIRES
"U. S." ROYAL CORD MOTORCYCLE BALLOON TIRES
"U. S." ROYAL CORD MOTORCOACH TIRES
"U. S." ROYAL CORD HEAVY SERVICE TIRES
"U. S." TWIN CUSHION, CUSHION, HIGH SIZE CUSHION and DEMOUNTABLE CUSHION TRUCK TIRES
"U. S." ROYAL, GREY, AND USCO TUBES
"U. S." BICYCLE TIRES, REPAIR MATERIALS and ACCESSORIES
"U. S." AUTO TOP MATERIALS "U. S." SPRING-STEP RUBBER HEELS USKIDE SOLES
"U. S." RUBBER FOOTWEAR KEDS SNUG-LER FELT FOOTWEAR
"U. S." RAYNSTER RAINCOATS BELTING—PACKING—HOSE HARD RUBBER PRODUCTS
"U. S." TILE FLOORING USCO SHEET FLOORING NAUGAHYDE LUGGAGE
"U. S." ROYAL GOLF BALLS "U. S." DRUGGIST SUNDRIES
"U. S." PARACORE INSULATED WIRE AND CABLE
"U. S." BATHING APPAREL

United States Rubber Export Co., Ltd.

Exporters of the Products of

United States Rubber Company

AND

Dominion Rubber Company, Limited

MAIN OFFICE·

1790 Broadway, New York, U. S. A.

Branches and Distributing Agencies in all leading cities of the World

The Testing of Rubber Goods at the Bureau of Standards

In Checking the Quality of Rubber Goods Purchased for Various Departments of the Government, the Bureau of Standards Has Tried Out Many Physical Tests Which Are Described in New Circular

A COMPLETE and interesting description of the methods employed by the Bureau of Standards in testing rubber goods is given in an official circular which the Bureau has recently released. Being charged with checking the quality of goods which companies furnish or propose to furnish to the Federal government, the Bureau maintains elaborate facilities for testing rubber goods to see if they conform to the Federal specifications which have been adopted as the minimum requirements.

In general the circular describes physical tests commonly employed in the Bureau and the machines and equipment used, much of which was designed at the bureau to meet certain needs. Data are given showing the effect of different conditions on the tensile properties of rubber, special attention being given to the effect of temperature on the physical tests. Brief outlines of the methods of collecting crude rubber and the processes of manufacture of rubber goods are also given.

Physical, chemical and ageing tests are now in continual process at the Bureau of Standards. Physical tests are made to determine the tensile strength, the permanent set after stretching, the strength of adhesion between plies in built-up fabrics, and the various other physical properties which each specific material possesses.

Chemical analysis, the Bureau says, cannot of itself furnish information on the above points until physical tests and actual service have demonstrated what compounds are best adapted to particular needs. In many cases chemical analysis furnishes the only available information as to the nature and uniformity of composition of rubber goods.

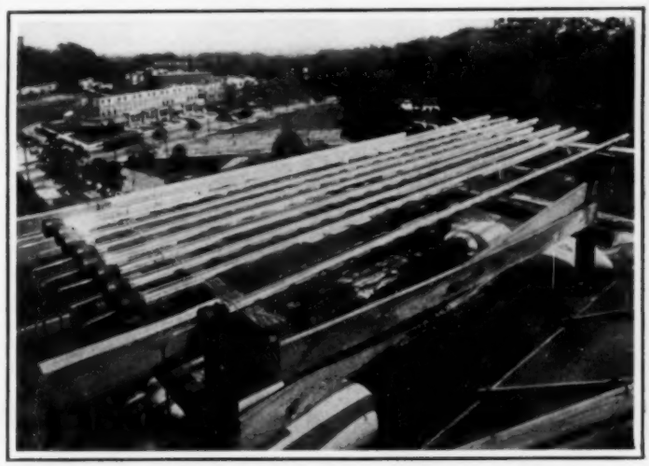
"No satisfactory method for the direct determination of rubber content has been found to date," the Bureau concedes, which is an interesting statement in view of the feeling which government departments have been known to have against the use of reclaimed rubber. On the subject of chemical analysis and the determination of rubber content, the circular states:

"There is no method of determining the amounts of various crude rubbers if more than one is present, and no method of determining the presence or amount of reclaimed rubber. However, if the analysis indicates the presence of small amounts of a variety of fillers and tensile strength and other physical characteristics are not what may be expected from a similar properly vulcanized compound known to contain only new crude rubber of standard quality, the analyst is justified in suspecting the presence of reclaim."

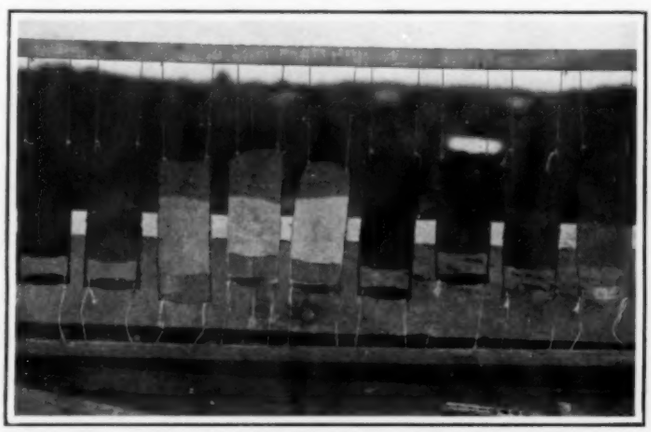
In view of the protests which have been made at times past over the failure of the Bureau to rely more completely on performance and physical tests in determining the suitability of rubber goods furnished the government departments, the following expressed opinion on the value of chemical analysis is interesting:

"Many rubber technologists believe that the analysis of a rubber compound as an indication of its quality has lost its significance. It is true that before the general use of organic accelerators more information could be obtained from the character and amount of acetone soluble material than is possible at present. The amount of combined sulphur when accelerators of vulcanization have been used furnishes little information about the degree of cure. However, an experienced rubber technologist may obtain much valuable information from the results of an analysis. It is surprising how frequently the results of an analysis complement the physical test data."

The greater part of the Bureau's description of its test methods is given to the physical tests for the completion of which the Bureau is well equipped. In addition to the standard test machines, many special devices have been set



Test Samples Exposed to Sunlight Under Controlled Conditions on Roof at Bureau



Complete Exposure of Samples in Natural Aging Tests. The Photographs on This Page Do Not Appear in the Bureau's Report

up and are regularly used. All of this equipment is described and much of it is illustrated in the recent circular.

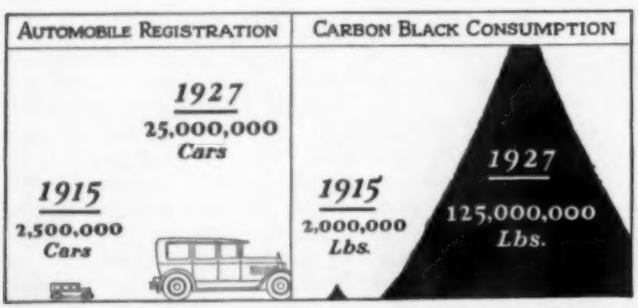
Since the government buys rubber goods of almost every description, the Bureau has been called upon to establish tests for a much wider range of goods than are tested in the average factory. Special tests, such as steaming for rubber hose or "friction" tests for rubber belting are numerous.

The Bureau's tests go beyond determining quality of proposed or delivered goods and extend to improvement in quality of the products. To this end the Bureau maintains a miniature rubber manufacturing plant where compounds are prepared, cured and sent under special tests. Samples prepared in this department have been used in establishing a comparison of natural and accelerated ageing.

Natural ageing tests have been made on selected stocks with outdoor exposure where samples were exposed to all atmospheric conditions, including sunlight, as well as with indoor storage where samples were stored in the dark and aged at room temperature. Accelerated tests were also made under three different conditions and results carefully charted. By putting different compounds through these tests and comparing the results the Bureau has established certain types of compounds as liable to give best ageing results. Views of the outdoor ageing tests are shown in the accompanying illustrations.

The testing of hard rubber, also described in the circular, differs somewhat from the usual tests made on soft rubber on account of the difference in properties and uses of the two materials. In hard rubber goods, ageing is a negligible factor as are abrasive properties and stress-strain properties. The main tests for hard rubber include those for tensile strength, impact, cold flow and electrical properties. The latter test, which includes the determination of dielectric constant, power factor, surface and volume resistivity and dielectric strength, are of particular interest today in view of the increasing use of hard rubber in various phases of radio apparatus.

Increasing Use of Carbon Black



AN interesting comparison between the growth in automobile registration and carbon black consumption was developed by Binney & Smith, pioneer carbon black manufacturers of New York, in one of their recent advertisements.

In 1915 there were 2,500,000 cars registered and carbon black consumption amounted to 2,000,000 pounds. Twelve years later, in 1927, there are 25,000,000 automobiles registered and carbon black consumption, the company estimates, will amount to not less than 125,000,000 pounds. This is a 60 fold increase in usage of carbon black, while the number of cars to wear out the tires in which the black is used has increased by only 10 times. It is conceded that the increase in motor car registration has been phenomenal, but these figures make it appear that the use of this pigment has increased to an even more surprising extent. Binney & Smith believe the growth of carbon black consumption sets a record among materials used in the automotive and related industries.

Schaphorst's CHATS *with the* ENGINEER

By W. F. SCHAPHORST, M.E.

DON'T run rubber belts "Scotch." That is, a rubber belt should never be allowed to get too tight. Neither should any other belt.

Excessive tension means that the belt cannot last a normal lifetime. Rubber belt fibres can safely withstand only a certain stress per square inch of section. After that stress is exceeded the fibres do not return to their initial positions. The elastic limit has been passed. Stretch occurs, and as stretch continues the width of the belt must become less, and the thickness less. Therefore with continued repetitions of the same excessive pulling force the stress per square inch actually increases. Obviously, the belt under such conditions must fail prematurely.

Excessive tension also means that the bearings are caused to absorb an amount of power that is unnecessarily high. Journal friction is "directly proportional" to the belt pull. Thus if you can reduce the belt pull 25 per cent, you reduce the bearing friction 25 per cent. And remember, there is a bearing at each end of every drive. Each absorbs power.

On a single drive these losses may not seem to amount to much, and may not appear to be worth while, but in plants where there are numerous belt drives the total annual preventable loss often goes into the thousands of dollars.

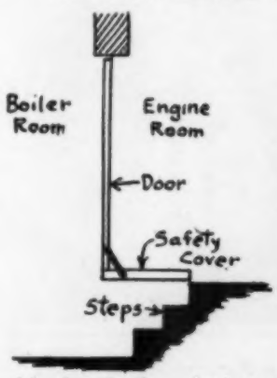
Pipe and Chimney Friction

When a pipe becomes encrusted with scales, or after its interior is coated with slime, it makes no difference whether the pipe is made of cast iron, steel, brass or gold. It is logical that the coefficient of friction must be the same after the pipe is once coated. Before the surface is fully coated it is true that there is a difference, but it is evident that where coating occurs the friction created by the coat must be considered and NOT the coefficient of friction of the metal. Yet in many formulas the material or metal is specified by authors rather than the coating.

The same applies to chimneys. After the interior of a chimney is once coated with soot all chimneys become alike so far as friction is concerned whether they are made of brick, concrete, or steel. Yet we commonly find formulas that designate different coefficient of friction for the various materials. Such formulas should be avoided.

Safety Cover Over Steps

This sketch shows how an engineer eliminated the possibility of a broken leg or other injury in his engine room.



The door shown used to swing into the boiler room, but there was always a "hole" in the engine room over the steps into which a passer-by might fall.

By changing the door to swing into the engine room and attaching the "shelf" to the door as shown in the sketch, the opening is now always covered when the door is closed.

Of course the door can be swung through only 90 degrees with the shelf on it, but that is no great inconvenience and is far preferable to a maimed body.

Growth of the Rubber Industry In Australia

Protected by a High Tariff Wall, Rubber Manufacturing in Australia Has Expanded Until It Supplies 60 Per Cent of Demand

THE rubber manufacturing industry in Australia presents a remarkable example of successful and sudden growth of an industrial business which has been built up solely by the support of a high protective tariff wall.

Recognizing the advantages to the Commonwealth of well secured home industries, the Australian government was prompt in giving the early rubber manufacturers substantial protection by the imposition of high import duties on all classes of finished rubber products. As a result, the home industry has enjoyed a steady and healthy growth and dominates the home markets in practically all classes of rubber goods. The field, however, has been somewhat invaded recently by Goodyear interests and the British Rapson Company through the incorporation by these two concerns of Australian limited companies for the local manufacture of their respective lines of rubber goods. Both of these companies are erecting or have completed plants in Australia and have already become important factors in the market.

The present tariff rates on rubber goods are gradually closing the local market to importations. On tires, the rate is 2s. 6d. (about 60 cents in U. S. currency) per pound or 40 per cent ad valorem, and the law reads that whichever rate works out to a higher amount is the one to be imposed. The same rate is applicable to rubber belting and 35 per cent ad valorem is imposed on rubber shoes, canvas rubber-soled shoes, etc. Goods of British manufacture enjoy a slightly preferential rate, but not sufficient to allow for the goods to be marketed in competition on a strictly price basis.

Local Industry Supplies 60 Per Cent

The local industry is now credited with supplying 60 per cent of the Australian requirements in rubber goods of all classes, and the further developments and enlargements in the industry are continuing.

With the new plant of Goodyear now completed and additional construction work going on at the Dunlop and Barnet Glass factories, the industry is planning an expansion which will bring the output of rubber manufactured goods well above double the volume now produced.

The tire trade in Australia has increased steadily over the last few years in corresponding ratio to the increase in automobile registrations. It is estimated that the local rubber manufacturers supply 60 per cent of tires used, while 40 per cent are imported. Auto registration as last reported for the whole of the Commonwealth totaled 374,717 cars of all classes.

The consumption of tires, including both new equipment and replacements, is estimated at 2,000,000 for the current year. Of this total, about 25 per cent is represented by new equipment on cars assembled in Australia, and of which the local rubber manufacturing trade supplies 90 per cent. All cars assembled locally by Ford and General Motors use locally manufactured tires as original equipment. The requirements for all purposes in 1928 are estimated at 2,400,000 tires with a corresponding number of tubes.

The largest manufacturer in the field at present is the Dunlop Company, with Perdriau second and Barnet Glass Company third.

Dunlop in Leading Position

The Dunlop Rubber Company of Australia, Ltd., enjoys a leading position in the local market and has recently strengthened its financial position materially by a closer relationship with the parent Dunlop organization in England through the purchase on the part of the English concern of 500,000 shares of the Australian company. The £625,000 derived from the sales of these shares is being used in the construction of substantial additions to the present plant which are expected to be ready by the middle of next year.

While the last financial statement of the company was a disappointment and a reduction in the usual 10 per cent annual dividend rate is thought likely, the explanation of the chairman of the board indicated that the losses were occasioned by heavy buyings of crude rubber anticipatory to a rise in price and not to any lack of business. The sales of manufactured products over the year were quite satisfactory and the company is looking to 1928 with considerable optimism.

Heretofore the local Dunlop company has supplied all original tire equipment on the Ford cars assembled in Australia, but whether this policy will continue now that Goodyear is also in the local field is problematical.

The Barnet Glass Rubber Company, Ltd., located at Footscray, Melbourne, has had an excellent record and substantial growth. Profits for their last fiscal year just completed totaled £130,671 as compared with £106,888 for the previous year and was a high record. Construction plans are now under way for additions to the plant with new modern buildings and equipment, which will allow for an increase to twice the output now produced. The new buildings are nearly completed and are expected to be ready for operation by the first of the year.

F. S. Ormiston, Barnet Glass managing director, has recently returned from a trip to the United States where he is reported to have made large purchases of the latest machinery for immediate installation, and it is understood that as a result of his inspection tour of American plants, the production methods of the Barnet Glass Company will

hereafter follow closely the processes in vogue in the larger American mills. Two American specialists have been added to the technical staff at Melbourne who will assist in the development of the plan.

The General Motors Company uses Barnet Glass tires on most of their locally assembled units. The Yellow Cab Company, which operates throughout the Commonwealth, is also supplied by Barnet Glass.

Perdriau Long Established

The Perdriau Rubber Company, Ltd., (Sydney) was established in 1881 under the title of Perdriau & Company by Henry Perdriau, a ship owner of Sydney and a native Australian. Mr. Perdriau is still the chairman of the board of directors of the limited company, which came into existence in 1904. The authorized capital of the company is £1,750,000 of which £1,457,234 has been subscribed. The present total investment in plant equipment and buildings is estimated at £600,000.

In the year ended June 30, 1927, Perdriau's financial statement showed the excellent progress which has been made. Net profits of £183,181 were the highest of any year to date, and were £45,750 in excess of the previous year's record. The ordinary dividend on the outstanding stock is 12½ pere cent per annum. The company has just recently completed the manufacture of its millionth tire.

Rapson Building New Plant

The Rapson Tire & Rubber Company, Ltd., was formed in 1926 to acquire the sole rights for the manufacture of soles in Australia of the Rapson tire and is constructing a factory on the Tamar River, Launceston, Tasmania. It is too early to make any comment on the financial position of the company, but in their first annual report, for the year ended June 30 last, the paid up capital is stated at £223,998. H. L. J. Butler, managing director of the company, has recently returned from the United States where purchases of plant equipment for the new factory were made. It is expected that the company will be in production by the middle of 1928 and the production schedule calls for 3,500 tires per week.

Next to the rubber tire and tube manufacture, the production of rubber belting hold an important place in the Australian rubber industry. It finds a market in the mining, fertilizing, canning and general engineering industries in the Commonwealth. The local industry is believed to furnish fully one-half of the Australian requirements. The Dunlop Company leads in the manufacture of this particular class of rubber goods.

Footwear Manufacture Increasing

There is a growing production also in rubber footwear although heavy imports in this line still continue. The firm of A. Golding, located at Canterbury, Victoria, is the largest single manufacturer of canvas rubber-soled footwear. The Perdriau Rubber Company, Barnet Glass Rubber Company and Dunlop are also turning out an increasing number of canvas shoes and also produce red-rubber soles and crepe rubber soles for leather footwear.

The relative importance of the industry to date is small in comparison with the total manufacturing industry in Australia, but its rapid increase is significant and speaks well for its possibilities.

The number of workers employed in rubber goods factories in Australia totaled 3,785 according to the last census figures which are for 1924. This has easily doubled since that time and a conservative figure would be nearer 8,000. During the same year the census figures show salaries and wages, exclusive of withdrawals by working proprietors, amounting to £716,162.

The total number of rubber goods factories in Australia according to the Australian Bureau of Census and Statistics was 65. This total evidently includes a number of small vulcanizing plants.

A list of the leading manufacturing concerns in Australia, as supplied by the office of the Australian Trade Commissioner stationed at New York is as follows:

MELBOURNE
- Barnet Glass Rubber Co., Ltd.
- Dunlop Rubber Co. of Australia, Ltd.
- Sanders & Co.
- E. Ansell, Richmond (near Melbourne).
- H. H. Britten, Hawthorn (near Melbourne).
- Eilenberg & Zeltner Pty., Ltd.
- Jones & Rowbottom, Carnegie (near Melbourne).
- Lion Rubber Works, Hawthorn (near Melbourne).
- Lyndhurst Rubber Works, Richmond (near Melbourne).
- Reeston Trading Mfg. Co., Richmond (near Melbourne).
- Standard Rubber Works Pty., Ltd., Richmond (near Melbourne).

GEELONG (Forty miles from Melbourne).
- A. R. Baker.
- Hamilton, McKenzie & Kidman.
- Koenig & Schuller.

SYDNEY
- Perdriau Rubber Co., Ltd.
- Sydney Rubber Moulders, Ltd., Marrickville (near Sydney).
- Goodyear Tire and Rubber Co.
- Hardie Rubber Co., Ltd.
- Aitken Rubber Co., Erskineville (near Sydney).
- J. P. O'Connor, Rockdale (near Sydney).
- Ryan Rubber Co., Forest Lodge (near Sydney).

BRISBANE
- Harvey, Frost Vulvanizing Co., Ltd.
- General Rubber Co.
- North Australian Rubber Mills Ltd., South Brisbane.

ADELAIDE
- Flinders Rubber Co.
- Renovial Rubber Co., Ltd.

PERTH
- W. F. S. Bardon & Co.

10 YEARS AGO

Items Reprinted from November 10, 1917, issue of THE RUBBER AGE

The I. B. Kleinert Rubber Company, New York, has received the award of a contract from the Surgeon General of the Army calling for 5,750 yards of gas mask material.

* * *

The war has increased the freight rate on crude rubber shipments from the ports of Singapore and Penang to the Pacific Coast from $24 to $95 a ton.

* * *

At a recent conference between men identified with the rubber industry and Howard E. Coffin, chairman of the Aircraft Board, the offer was made to co-ordinate all of the big rubber plants of the country to facilitate the carrying out of the Government's air fleet program.

* * *

Rubber factories in the West have suffered from the shortage of coal and it is becoming increasingly evident that the industry must expect a continued scarcity of fuel and more priority orders. . . Government orders and the good financial condition of the country make the situation of the rubber industry as a whole a strong one.

* * *

The New York crude rubber market closed on December 21 with smoked ribbed sheets at 55c.

Tumbling Barrels Find Wide Use in Rubber Factories

Used for Shaping, Smoothing, Cleaning, Coloring and Unifying Batches of Cured Rubber Articles as Well as for Mixing Dry Ingredients and Cements—Time Required Varies with Each Article

TUMBLING barrels are among the smaller items of equipment used in rubber factories but they are also among the most useful. They were adopted from the method used in the metal industries for finishing various light castings and stampings. They have proved useful in so many ways in connection with rubber manufacture that there is hardly a rubber plant but has one or more tumbling barrels for one purpose or another.

The tumbling method is principally thought of for shaping, smoothing, cleaning, coloring, and unifying batches of cured articles so that they have an identical appearance. Manufacturers of hard rubber, druggists' and stationers' sundries, toys and balls, and small open cured or molded articles use tumbling barrels to remove light overflow and excess suphur. They are also used for recoloring as a very small amount of green or red oxide equalizes itself through the contents of a barrel in short order. Yellowish articles are made snow white with a pinch of lithopone, grayish black is brought to jet black and other off-colors are similarly rectified.

Use in Mixing Dry Ingredients

Tumbling barrels are also used for the following purposes: to thoroughly mix together the dry ingredients that constitute a batch so that when sent to the mixing room to be incorporated with the rubber, reclaim, substitute or mineral rubber, the small proportions of color, sulphur, accelerator, scent, etc., are evenly distributed. Stocks that are not refined after mixing are the better for having the dry ingredients shaken together in this way, especially if it is a quick milling batch. Large tumbling mills are used to secure uniform distribution of the small quantity of oil or powdered rosin used in some reclaims.

Solutions and thin cement, pure or compounded, for brush work are made in revolving barrels. The interior of these has no shaft or dashers so that the contents may be dipped out or poured out clean. Varnish and naptha or oils may be mixed in this way. Perforated metal barrels are used for pulverizing rosin, mineral rubber, shellac, etc. Washing barrels are used for removing sulphur bloom with caustic soda or to apply water varnish, water and glycerine solutions, etc.

In testing samples of cured stock a small barrel is useful. A dozen or more pieces of about the same shape and size and as many qualities will show their comparative wear resistance.

Perforated barrels are sometimes used in vapor curing very light products. For this purpose the barrel is enclosed in a small chamber with the dishes of acid underneath. The vapor works its way through the barrel and the revolving of the barrel keeps the contents shaken about so that uneven cure is eliminated.

As is indicated by the name, tumbling barrels are simple equipment, being nothing more than barrels arranged horizontally for revolving so that the contents are tumbled together. This equipment is commonly made in the factory's shop. The barrels are properly fitted with side openings for feeding and removing the articles to be tumbled, and also with discharge holes for the crumb which wears off the articles. If provision were not made for this crumb to drop out of the barrel, it would of course soon diminish the effect of the tumbling. The barrels are connected by simple gearing to the power source, usually by overhead shafting.

Not all tumbling barrels are home-made, however. They are regularly supplied by several of the machinery houses. The demand on these houses is particularly for barrels for special purposes, some of which are not far removed from pulverizing equipment.

The time required for tumbling a batch depends on the size and shape of the article and on its quality as well. If the article weighs around three or four ounces and is made of low grade stock, 30 to 40 minutes would perhaps suffice. The same quality of stock made into articles running 100 to the pound would take several hours. With tough, friction-resisting stock, 10 to 12 hours might be needed to tumble to the desired state.

Rubber men know that the quality of a batch of uncured stock may be accurately estimated by running it for a few minutes on a cool mill and with cured stock tumbling tells the story of quality equally well. When tumbling large articles (three to four ounces in weight), a quantity of scrap of the same kind or quality, cured trimmings or bits of waste are placed in the barrel with the articles. These fill in and prevent the corners and edges from wearing away too quickly before the remaining surface is finished. Also, coarse pumice is added at intervals to loosen the crumb which is inclined to adhere to soft cured articles when they are being tumbled.

Correct Speed is Important Factor

The ideal condition is to run the barrel at a speed that causes the contents to finish as smoothly as the quality or cure of the articles will allow. If the speed of the barrel is too great, the finish is not so good. Forty or fifty revolutions per minute for barrels 30 inches in diameter is about right. Twice the speed may be used when coloring matter is introduced; a few minutes is enough to work off the excess powder.

The number of tumbling barrels a plant will need will depend on the quality and quantity of articles to be tumbled. Usually where much of this is done, the barrels are placed in a room by themselves as there is always considerable floating dust in connection with tumbling. Usually a factory will have several barrels of different sizes and speed.

As mentioned previously, tumbling apparatus is generally home-made as it is simple enough. The barrels are placed horizontal and high enough from the floor so that a deep tray may be used to catch the contents when dumped. Large barrels of a size to carry 400 to 500 pounds will have

a block and fall to expedite loading. Any size from two feet to eight feet in length by one foot to four feet in diameter is found. If octagonal in shape they can be run slower and if hung slightly off center, the jar keeps the contents stirred up or rolling, and shakes up the crumb or dust. Hard wood, such as maple or oak is used, with perforated iron plates set at intervals to allow the dust to escape. The perforations are 1-8" to 3-16" and they are usually equal to about 1-10 of the entire surface.

Barrels for cement making will have the shaft or axle bored on one side and a small pipe fitted to allow escape of gas as the barrel warms in running. Scrap iron pieces are used in the perforated metal barrel used for pulverizing. The holes may be from 1-32 inch to 1-16 inch diam. or any size for fineness of granulation desired. Compounding, mixing and sifting barrels may be hung considerably off center to get maximum agitation. Barrels for washing are of the double kind, the inner one perforated, or maybe a single barrel with perforated hollow shaft so the contents are sprayed while slowly revolving.

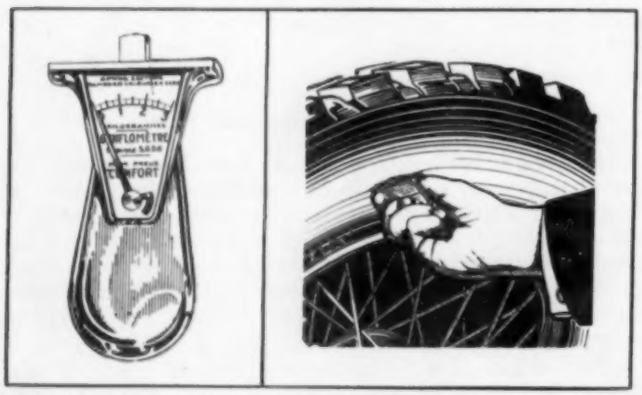
Factories that do a lot of tumbling keep the different kinds of crumbs or dust separate and use it in fresh mixing; it has a somewhat different feel from mill ground crumb, owing no doubt to the absence of intense heat and pressure that occurs in mill-grinding some scraps. Perhaps it is no better for practical use but it is softer and springier than the latter.

Air Pressure Tester for Balloon Tires

A DEVICE for testing air pressure in balloon tires without touching the valve in any way has recently been introduced by one of the motor accessory houses of Paris. This device is sold in France under the name "Gonflometre" and in England it is known as the "Pressometer."

To test the pressure of a balloon tire, the "Gonflometre" is simply pressed against the sidewall of the tire. The needle on the dial moves according to the resistance which the air pressure inside the tire induces against the blunt plunger of the instrument. After a reading is taken, the needle is pushed back to zero. It is claimed by the manufacturers that five tires can be tested in 25 seconds, and attention is called to the fact that the device eliminates the unscrewing of dusty valve caps or disturbing air tight valve parts.

The device has not yet been thoroughly tried out in the



United States and no statement concerning its reliability is available. It sells in France for 38 francs, equal at the present rate of exchange to about $1.50 in U. S. currency.

Belgium Admits Carbon Black Free

According to new advices from abroad, Belgium has removed the import duty on carbon black when it is intended exclusively for the industrial treatment of rubber.

Research Associate Handling Work for Physical Testing Committee

Since January, 1927, the Physical Testing Committee of the Rubber Division, American Chemical Society, has had underway at the Bureau of Standards in Washington an investigation of the effect of temperature and relative humidity upon the physical properties of vulcanized rubber compounds. The progress report of the committee, showing important conclusions as a result of the research, was published in the December 10 issue of THE RUBBER AGE. The work at the Bureau has been handled by Frank E. Rupert, research associate, who was transferred to Washington from his post as research physical chemist at the Chicopee Falls, Mass., plant of the Fisk Rubber Company.

Frank E. Rupert

Mr. Rupert was educated at the Universities of Michigan and Wisconsin, receiving the degree of B.S. at the former in 1912 and his M.S. at the latter in 1915. He subsequently did graduate work at Columbia and Harvard Universities.

Up until 1922 Mr. Rupert was engaged in teaching chemistry, serving in that capacity at State Teachers' College, Mansfield, Pa.; Simmons College, Boston; and Carnegie Institute of Technology, Pittsburgh. In 1922 he took the post of associate physical chemist in the Chemical Warfare Service, being stationed at Edgewood Arsenal. He joined Fisk in 1924.

Mr. Rupert is continuing his work in Washington for the Physical Testing Committee, funds for its maintenance during 1928 having been assured through the recent appropriations of the Rubber Association of America and the Firestone Tire & Rubber Company. He is a member of the Phi Phi Delta fraternity.

Early Reservations Are Requested

for New York Group Meeting of Rubber Division, A. C. S.

On the evening of January 11, at 6:30 o'clock, the first meeting of the New York local group of the Rubber Division, A. C. S., will be held at the Beaux Arts Restaurant, 80 West 46th Street, New York City. Following dinner, Francis R. Henderson, president of the Rubber Exchange of New York, will talk on the buying and selling of crude rubber. In keeping with the purpose of the Rubber Division in planning the establishment of local groups, the committee extends the most cordial invitation to all rubber technologists in the New York district, as well as other members of the rubber industry who may be interested to attend this meeting. The price of the dinner, at which dress will be strictly informal, will be $1.50 and the committee urges that reservations be sent as early as possible to the undersigned at 50 East 42nd street, New York City.

A. A. SOMERVILLE

Chairman, Dinner Committee.

THE GENTLEMAN FROM MINCING LANE
reports current opinion in London's famous rubber market in every issue of THE RUBBER AGE

The London Letter

The Gentleman Talks About a Deficit of 40,000 Tons

London, 14th December, 1927.

FROM the rubber point of view, Christmas 1927, will be like Christmas 1926, not like Christmas 1925. At the end of 1925 rubber prices were clambering down from the peak to which they had climbed in the hot days of summer. This Christmas season rubber prices are not declining but, as in 1926, are bullish and looking expectantly to much better days ahead. It happens, too, that rubber prices this Christmas almost match those of a year ago. So, although rubber growers and shareholders are greatly relieved by the recent advance in rubber prices from around 16d. to over 19d., "Merry Christmas" is not able to bring them what "Happy New Year" promises to, especially if we may trust the London expert opinion that 36,500 tons of rubber will have to be taken out of stock during the first six months of 1928 in order to meet the world's demands.

A leading firm of rubber-share brokers have analyzed the rubber position as it is today and have hazarded a guess as to next year's prospects. As far as I can gather, their expectations are no less optimistic than those of the leaders of the British rubber growing industry. This analysis opens the season for such sets of figures and predictions and soon there will be an abundance of them to consider but since this one is the first comprehensive one to make its appearance, we may as well study it with some care. It is offered by Zorn & Leigh-Hunt.

In preparing their estimate of next year's rubber production these well-known brokers have disregarded reports from the East that there will be a definite reduction in the total standard production from Malaya as a result of the imposition of more conservative methods of estate assessment. In other words, they have been conservative in the first instance and presume that restriction will not be tightened in that direction.

WITH this in mind, they figure that the world's normal production, based on a 60 per cent exportable basis for the British estates, works out at between 44,000 and 45,000 tons per month, making due allowance for the use of unused coupons and for smuggled rubber.

On the consumption side of the picture it is found that for fifteen years the average annual increase in rubber consumption has been at the rate of 13 per cent, and for the past five years, at the rate of 12 per cent per annum. With the current year's consumption estimated at 600,000 tons, these prophets have figured conservatively on an 8 per cent increase in 1928, or a total consumption in that year of around 650,000 tons.

In order to get an estimate of the statistical position during the six months running from November to April the statisticians who have prepared this estimate assume the consumption to have reached an average rate of 610,000 tons per annum, or 51,000 tons per month. Subtracting from this monthly figure the production estimate given above, namely, 45,000 tons, leaves not such a bad prospect for a Happy New Year since stocks in such a case would be depleted 6,000 tons per month or 36,000 tons by the end of next April.

With extraordinary courage these brokers dare look to the end of 1928 and show that even if higher rubber prices earned an additional 10 per cent to the exportable percentage during every quarter of the year after April, the net 1928 reduction in rubber stocks would amount to 40,000 tons. Of course there is no assurance that the additional releases will be earned in which case the excess of consumption over production would be much greater. But this is the way they figure:

THROUGH the maintenance of an average price of not less than 2s. (48 cents) during the February-April quarter, the exportable allowance in the May-July quarter would be increased by 10 per cent to a total of 70 per cent. The maintenance of the same price for three more months is counted on to bring the exportable percentage up to 80 per cent. In the August-October quarter, they figure, an average price of 1s. 9d. (42 cents) will be sufficient to boost the exportable percentage 10 per cent more, or up to 90 per cent for the last two months of 1928.

Adding the increased production which these releases would mean to the present computed production of 45,000 tons per month, together with 10,000 on account of unused coupons, gives a total output of 610,000 tons in 1928 against a consumption of 650,000 tons if no more than 8 per cent gain were made in the amount used. This would mean a deficit of 40,000 tons. This might not be so serious but it is a foregone conclusion that these statisticians have been too conservative in figuring that prices will run up to a 48-cent average throughout six of the early months of 1928. Failing that, the deficit would conceivably be much larger.

It is not surprising that rubber shares are firmly held in London!

A few days ago Mr. Eric Miller, chairman of Harrisons & Crosfield, in speaking on the rubber situation at the London School of Economics made the interesting observation that "if we had not had the rubber boom of 1910, when the rubber plantation industry was in its infancy, the world would have starved for rubber long ere this, or else it would have been denied the extraordinarily beneficial development of motor transportation."

Mr. Miller also observed for the benefit of the budding economists that "the scheme for regulating rubber supplies is simply the law of supply and demand brought under some measure of control to minimize the errors of human judgment." It would be interesting to know if they were satisfied with such an economic doctrine.

Yours faithfully,

THE GENTLEMAN FROM MINCING LANE.

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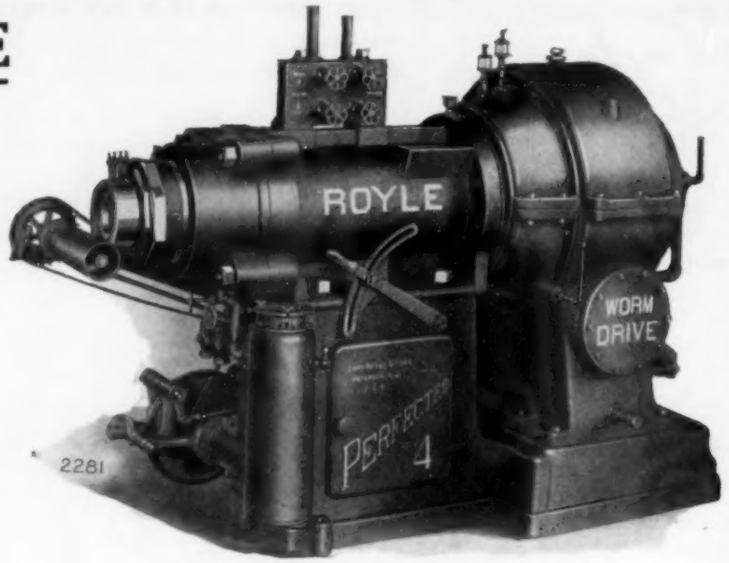

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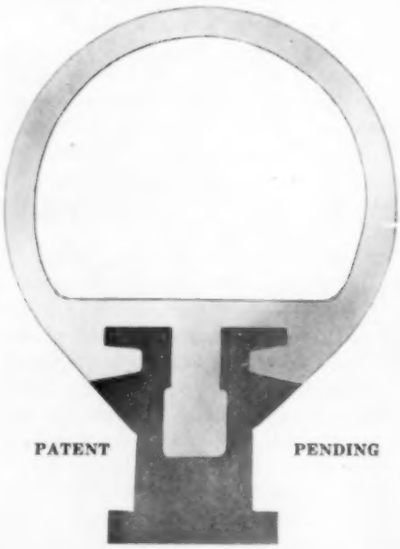

The heavy shaded portion in the above illustration shows the steel tongue casting which means a steel trimming line, elimination of breakage and wear. Cast steel fittings for automatic chucks, clamping rings or other parts.

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EDITORIAL COMMENT

A Good Year in Prospect

THE closing weeks of the year bring the usual season for retrospection and a review of the activities of the twelve months. For the rubber industry the year has held many successes and not a few disappointments, but on the whole the period closes with the industry in a substantially sound position and looking with warranted optimism toward a satisfying year in 1928.

In the field of crude rubber, the year's trading started off at relatively the same market prices as are prevailing at the present time. Happily, price fluctuations during the year have been much narrower than in many previous years. Restriction has not hampered the market to any great extent, being somewhat vitiated by abuses which have been creeping into the system for some time. With the beginning of the fifth year of the plan on November 1, the crude rubber situation was much the same as at the inception of the Restriction Act, with the market below the pivotal price, large stocks on hand in the chief markets, and the exportable allowance standing at 60 per cent. Disappointment with the results of the Restriction policy in general has been evident on both sides of the Atlantic.

In the manufacturing industry, the year started off auspiciously, with the factories in full production and an increasing demand for rubber goods in all markets. But the chief supporting industry, the automobile trade, fell off appreciably toward summer and with Ford completely out of the market, the reaction on the rubber manufacturing output has been pronounced. Tire stocks increased with decreased production, and curtailments were made in practically all factories.

But the year has been far from a gloomy one, and as it closes there is abundant cause for satisfaction at the state of the industry and trade as a whole. The manufacturing companies, almost without exception, have made satisfactory profits and are in an improved financial position. Two of the companies which have published their fiscal year reports have exceeded their best previous records, and larger dividend rates have been the prevailing rule.

The prosperity of American rubber companies is closely tied up with stable crude rubber prices. At the present moment strengthening, but not runaway, prices appear to be in order. They will likely bring with them the necessity for higher prices for finished goods. In such a period the rubber industry faces better times than when spot rubber is falling. There is little question that 1928 will bring an expanded market and at the moment it seems that it should bring reasonable profits also.

Combinations of Importers

AMENDMENT of the Webb-Pomerene Act permitting the formation of export combines so as to extend the same privileges to importers will have the support of the Department of Commerce, Secretary Hoover has recently indicated. Senator Capper has stated that he will shortly reintroduce for this purpose the bill he placed before the Senate in 1925. The bill was not acted upon at that time.

At the present moment it is not clear whether import combines transgress United States law or not. There is no clear ban on them but neither is there any assurance that in a test case they would not be liable to restraint. Senator Capper would simply amend the Webb-Pomerene law to the effect that nothing in it shall be construed as declaring to be illegal an association which collectively imports raw materials which the Secretary of Commerce judges to be produced abroad under monopoly or controlled conditions.

Centralized buying has long been talked of as one remedy for the British rubber control. It is known to be a remedy which the British do not like. The mistake should not be made of believing that the present rubber pool is a combination of buyers in this sense of the word. The present pool is said merely to maintain a stock which can be used for steadying the market, and the individual members continue to buy to cover their own requirements. Things would be much different if real centralized buying were accomplished and while that should not be lightly advocated, the Secretary of Commerce is probably right in desiring to see this protection given American consumers of imported raw materials.

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NEWS of the INDUSTRY

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RUBBER FOOTWEAR IS HAVING BUSY SEASON

Business Has Been Excellent, With Snow in East Assisting in Clearing Dealers' Shelves—1928 Line Will Be Priced on 1st of January.

THIS is the time of year in the rubber footwear industry when the peak of activity shifts from production to distribution. Advance orders for dealers' stocks have all been delivered and production at the factories is devoted largely to fill-ins on sizes on staple numbers. The snowstorm which swept the East on December 6 was immediately felt with a rush of deliveries the following week, and business in general has been excellent. In the West, Chicago itself has had no footwear weather yet but the Minnesota and Dakotas territory has had heavy snow.

The attitude of the consuming public toward the millinery vogue in gaiters is being watched with interest, and to date it has reached expectations as repeat orders are coming in for fancy overshoes even from territories which have not had much footwear weather. Dealers report that they have moved gaiters earlier than ever before, showing that the women realize the value of low cut gaiters to keep the feet warm and have yielded to the appeal of the attractive new fabrics.

New Lines for 1928

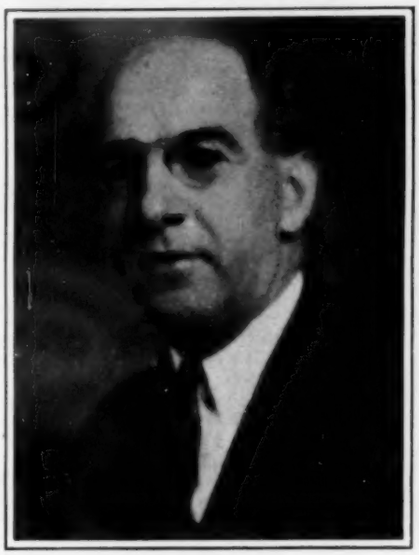
Manufacturers are making samples for the 1928 line which will be priced January 1. No changes are looked for in prices as they were reduced a year ago about 15 per cent, and the price of cotton is higher than a year ago and rubber is about the same.

The United States Rubber Company factories have announced a shutdown for annual inventory in all footwear plants from Friday, December 23, until Tuesday, January 3. To date, Hood, Firestone, Cambridge, and Converse have indicated that they will run during this period as their fiscal years do not end until April 1 or later with the exception of Hood which has changed its year to coincide with the calendar.

Converse is running full, although a few fancy gaiter makers have been laid off, as the company is only stocking staple numbers in view of the new lines coming out January.

The swing to tennis production which always takes place after the first of the year has already begun in some mills. The National India Rubber Company, U. S. Rubber subsidiary at Bristol, R. I., where "Keds" are made, is running a much larger ticket than a year ago, and Hood tennis production is already in excess of 20,000 pairs daily.

Converse has a new 36-foot boot pressure vulcanizer being installed to take care of increased demand on heavy goods. The H. L. Hauser Company of Boston, who erected the Firestone addition at Hudson, is constructing the concrete supports for the new installation.



J. H. Connors

General Plans Pacific Plant

That the Pacific Coast offers an irresistible attraction to the larger manufacturing companies is seen in the latest reports to the effect that the General Tire & Rubber Company is following the urge of its fellow members of the industry and is planning the establishment of a factory in that region. It is understood that the company is investigating a number of sites and has been particularly interested in a tract of land near San Diego, Cal. The proposed mill will consist of several multi-story units with other auxillary structures. The project is estimated to cost around $3,000,000 including the installation of machinery.

Hornblower and Weeks, New York Stock Exchange brokers, have prepared a special memorandum of the B. F. Goodrich Company for distribution to their clients upon request, outlining the present excellent financial position of the company.

J. H. CONNORS ELECTED REPUBLIC PRESIDENT

Former Goodrich Official Now Heads Lee Subsidiary Making Wide Line of Mechanical Rubber Goods—Watson Still Chairman of Board.

J. H. CONNORS, who has been serving as vice-president and general manager of the Republic Rubber Company, was elevated to the presidency at a meeting of the board of directors, held at the offices of the company in Youngstown, O., on December 5. John J. Watson, formerly president, continues as chairman of the board.

The newly elected president of Republic, whose history is one of consistent progress, is a veteran of the rubber industry, being particularly well-known in connection with mechanical rubber goods. His apprenticeship was served in the Boston branch of the B. F. Goodrich Company, under the supervision of E. E. Leach. In 1916 Mr. Connors was promoted by Goodrich to the position of manager of Diamond mechanical goods sales at Philadelphia, where he remained until he was transferred to company headquarters at Akron, Ohio. The Philadelphia branch was at that time under the district managership of the late Edward H. Fitch.

In January, 1920, Mr. Connors assumed the position of manager of Diamond mechanical goods sales for the Akron sales division, later was given jurisdiction over tire sales in the same division.

The association of Messrs. Fitch and Connors in the Philadelphia office of Goodrich developed into mutual esteem which led them to undertake jointly in January, 1922, the rehabilitation of the Republic Rubber Company, then in receiver's hands. Mr. Fitch became general manager of Republic under Receiver C. H. Booth, with Mr. Connors as assistant general manager. In June, 1923, the Republic Rubber Company was acquired by the Lee Rubber & Tire Corporation and Mr. Fitch was elected president and general manager of the reorganized Republic Company, with Mr. Connors ranking as his assistant. Subsequent to the death of Mr. Fitch, John J. Watson assumed the presidency, while Mr. Connors assumed the duties of vice-president and general manager, which position he held up to his recent election as president.

AJAX-McCLAREN MERGER PLANS ARE COMPLETED

Combination Affected By Transfer of Stock Without Cash Consideration—J. C. Weston Becomes Chairman of Board With H. L. McClaren President.

THE final plans for the merger of the Ajax Rubber Company of Racine, Wisconsin, and the McClaren Rubber Company of Charlotte, N. C., have been announced by H. L. McClaren, president of the latter concern.

No immediate cash consideration is proposed and the Ajax Company will acquire the 12,000 common shares of the McClaren company through an exchange of ten shares of Ajax common for each share of McClaren. The 5,000 shares of McClaren preferred stock will be paid for in five-year notes at 8 per cent, callable at any time after two years from date of issue at 115. The notes also carry warrants giving the holder the right to purchase one share of Ajax common at $10 a share for each $10 face value of the note.

Meetings of the stockholders of each of the companies have been held during the month and approval is given to the plan. Under the merger, H. L. McClaren will become president of the combined companies and J. C. Weston, president of the Ajax company will assume the position of chairman of the board of directors.

The McClaren Rubber Co. has assets of approximately $2,000,000. The company succeeded the old J. & D. Tire Co., incorporated 11 years ago under the laws of the state of Deleware. The Ajax Rubber Co. reported total assets of over $14,000,000 at the end of 1926.

No statement as to the policy or production plans of the consolidation have as yet been announced.

ACCOUNTING ASKED IN MASON RUBBER CO. SUIT

In a suit instituted by a group of stockholders of the Mason Tire & Rubber Company against the present administration of the company, in the Common Pleas Court of Ravena, Ohio, claim is made that the present officials of the company seized control of the concern through the illegal transfer of stock ordered returned to the Company by the Portage County courts in previous suits and petition is made for a general accounting of funds and the appointment of a receiver. The petition also attacks the payment of $40,000 to D. M. Mason for an alleged claim which is said to never have been properly explained.

In reply to the suit, W. A. Cluff, president of the company, said that three-fourths of the claim of the petitioners related to matters which had already been settled by previous court actions.

"The plaintiffs in the present suit apparently are under the impression," said Mr. Cluff, "that the stock ordered to be cancelled has been controlling the company. Such, however, is not the case.

"Plaintiffs also claim that the company's operations have not been conducted as profitably as those of other companies in the industry due, as claimed, to the payment of excessive salaries to operatives and officers.

"The present management is not responsible for what took place in the company's affairs prior to 1924, in which year, however, the company was able to materially cut down a prior existing deficit. Company operated at substantial profits in 1925 and 1926.

"This year business has been materially decreased due to lack of business from one of its principal customers, a leading automobile manufacturer. Our branches, however, have done more business in 1927 than in 1926."

FIRESTONE NEGOTIATES FOR PLANT IN ENGLAND

Announcement that the Firestone Tire & Rubber Company may shortly extend their manufacturing interests to Great Britain and thus join the other American rubber manufacturers in that field was recently made in the annual report of the company, which stated that plans were being already considered. It is understood that the company will endeavor to secure a factory which is already built, located preferably in the Midlands.

Sears Roebuck Tire Sales

The new Sears Roebuck store on Commonwealth avenue, Boston, is doing a record business on tires and automobile accessories. The store was opened in June and it is reported that 25 carloads of All-State and Dearborn tires were shipped and sold from this branch during the first three months of its existence.

Small Airplane Tires

The Nicholas Beazley Airplane Company of Marshall, Mo., has announced that it has completed arrangements for furnishing tires for 20x4 clincher airplane wheels. Clincher tires to fit these wheels have heretofore not been available, the company states. The tires will be supplied at $9.00 and tubes at $2.00. These prices are said to be made possible through the company's contracting with one of the tire manufacturers for a large quantity of this particular size.

Kresge Selling Overshoes

Fancy low-cut gaiters have appeared in the low-priced chain stores such as Kresge's for the first time this year. In the stores of this chain, whose price limit is $1.00, low-cut mixed grey and tan gaiters are being sold for 85 cents a shoe, making the price $1.70 per pair.

RUBBER CONSUMPTION DURING NOVEMBER LOW

Total Absorption by Manufacturing Industry Only 2 Tons Over Last Month's Consumption—Imports and Stocks on Hand Continue High.

THE consumption of crude rubber during the month of November still remained low and was only two tons more than for the preceding month. A total of 26,792 tons was absorbed by the industry, according to the figures of the Rubber Association of America, as compared with 26,790 tons for October and 28,080 tons for November, 1926. If this low monthly consumption rate is not improved during December the total consumption for the year will barely equal the unusually low total for the year of 1926 and at all event will probably not reach 375,000 tons.

The total consumption for the eleven months of the year to date totals 345,534 tons as compared with 339,615 for the corresponding period of 1926. These late figures have made a serious dent in the prophesies current during the year to the effect that the United States would consume at least 400,000 tons of rubber during the year.

Arrivals during the month of November went way over the October figure and aggregated 40,984 tons as compared with 31,310 tons the month before. On the other hand, the November total was slightly less than the 41,107 tons imported during the same month in 1926. Total imports for the eleven months of the current year stand at 403,677 tons as compared with 379,059 tons brought in during the same period of 1926.

With these high imports and the continued low consumption the stocks on hand on November 30 went to the record figure of 101,034 tons for the year. On the same date in 1926, stocks had stood at 69,385 tons. The amount of rubber afloat to the United States, however, showed a decline from the October figure and only totaled 37,076 tons as compared with 42,809 tons reported afloat on October 31. Stocks on hand in London have shown a decline from the high point in October.

The total consumption figure for the manufacturing industry in the United States for November was a distinct disappointment to crude rubber interests, especially in view of the reported return to heavier production schedules on the part of the majority of the industry, but evidently the very low ebb which was reached in consumption during the early part of November could not be offset by the heavier absorption during the latter part of the month.

Molded Products Co.

The Molded Products Company, of Chippewa Falls, Wis., manufacturers of composition rubber goods, are reported to be planning the rebuilding of their plant which was recently destroyed by fire at an estimated loss of $600,000.

LEE RUBBER STATEMENT SHOWS IMPROVEMENT

Sales Running at $1,000,000 Monthly—Hope to Resume Dividends in March at Present Rate of Earnings—Big Reduction Made in Bank Loans.

WITH sales running in excess of $1,000,000 a month the Lee Rubber & Tire Company is expecting to declare a dividend at the annual meeting of the directors in March, 1928, according to a statement of John J. Watson, president of the company.

"Net income for the ten months ended October 31," said Mr. Watson, "was more than $700,000. Our inventory position is excellent. Our crude rubber was purchased at very near bottom prices and our cotton inventory is far under the market. Cash on hand on November 30 was $934,000."

Lee Rubber & Tire Company has changed its fiscal year to end October 31 and will make public its annual financial statement within a few weeks. It is said that the report will show earnings of $2.40 per share on the 300,000 shares outstanding. With the present rate of sales holding up the total earnings for the full calendar year are estimated at $825,000, as against a loss in 1926 of $1,670,068. Net profits for the first six months of 1927 were $485,492 or $1.61 per share.

Mr. Watson reports that the business done in mechanical goods by the Republic Rubber Company, the chief subsidary of the Lee company, has been running at peak levels. This line represents approximately 25 per cent of Lee's total business and therefore has a definite bearing on the total profits.

It is not thought likely that dividends will be resumed before March as the company is endeavoring first to reduce its bank loans. This indebtedness at the end of 1926 stood at $2,300,000 and has been reduced during the current year to $1,500,000.

WILSON RUBBER CO. GETS OLD REPUBLIC FACTORY

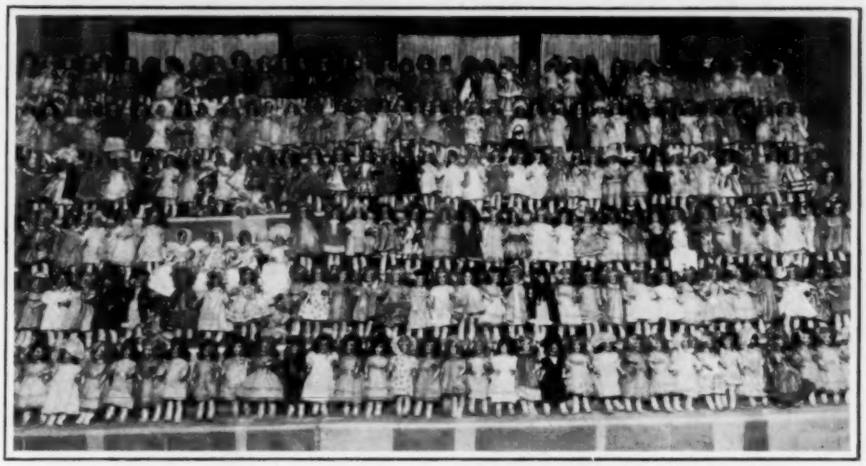
The Wilson Rubber Company, of Canton, Ohio, has announced the purchase by them of the old Canton plant of the Republic Rubber Company. The new acquisition will be known as Plant No. 2 of the Wilson Company and the repairing and remodeling will begin immediately. Considerable new equipment has also been ordered and it is hoped to have the second plant in production within two months.

The site of the building covers four acres. The main structure has two floors and basement containing approximately 80,000 square feet. The plant was originally built for the Knight Tire & Rubber Company before it was taken over by the Republic Rubber Company, but for the last several years it has been vacant.

The Wilson Rubber Company has been steadily expanding since its organization in 1916. It built its first building in 1918, but a year later constructed a larger plant and in 1921 built a substantial addition. In 1925 a five-story brick and concrete factory was built and another story added to the structure in 1926.

The company is confining its field of manufacturing exclusively to rubber gloves for surgical, household, industrial and electrical uses. When the new Plant No. 2 gets into production it is expected that the output will be increased 50 to 75 per cent.

CHRISTMAS DOLLS FROM THE U. S. RUBBER CO.



This Picture Shows a Few of the Hundreds of Dolls Which Were Dressed by Girls Employed by the United States Rubber Company for Distribution to Poor Children on Christmas Day. Funds to Purchase the Dolls Were Contributed by Men Employees Who Also Bought Books and Games for the Christmas Stockings of Poor Boys

CORNELL NEW HEAD OF JERSEY RUBBER ASS'N

The annual meeting of the Rubber Manufacturers' Association of New Jersey was held at the Stacy-Trent Hotel in Trenton on December 13. Following a dinner Colonel Voorhees, of the Manhattan Rubber Company, Passaic, gave a talk on the rubber situation. The following officers were elected for the ensuing year. President, A. Boyd Cornell, Hamilton Rubber Company, Trenton; vice-president, Clarence D. Wilson, Luzerne Rubber Company, Trenton; secretary, Charles E. Stokes, Jr., Home Rubber Company, Trenton; treasurer, Horace B. Tobin, Woven Steel Hose and Rubber Company, Trenton.

H. G. Steinbrenner

H. G. Steinbrenner, formerly president of the bankrupt Steinbrenner Rubber Company, of Noblesville, Ind., and under indictment with five others on charges of using the mails to defraud in connection with the financing of the company, died on November 16 in Chicago.

The Steinbrenner Rubber Company was organized under the laws of Indiana with a capitalization of $650,000. The trustees handling the affairs of the concern report that $600,000 in claims are outstanding against the company.

GOOD BUSINESS REPORTED IN THE TRENTON DISTRICT

Trenton tire manufacturers report a satisfactory volume of orders and the operation of their plants at a good rate for the present season. A recent price reduction on tires was announced in accordance with the cut in other parts of the country. Inner tube prices were not changed. The prices for pleasure car tires have not been so low in many years. Production of brake lining in the Trenton district shows some decrease. The output of mechanical rubber goods remains normal with prospects good for the coming spring. There has been no increase in hard rubber manufacture.

GOODYEAR OF CANADA SHOWS GOOD PROFITS

The Goodyear Tire and Rubber Company of Canada, Ltd., ended its fiscal year on September 30 with a net profit of $2,171,390 after deducting all charges, as compared with $1,657,365 for the previous year. The profit and loss surplus was $4,491,805, as against $3,105,025, while the inventories amounted to $3,483,171, as compared to $4,065,146 on the books last year. The financial statement showed no indebtedness other than current bills which were not yet due for discount.

J. N. Gunn Will Filed

The will of James Newton Gunn, former president of the United States Tire Company and vice-president of the United States Rubber Company, who died on November 26, was filed recently in New York City. Under the terms of the will his entire estate was left to his widow, Mrs. Mabel Barclay Scott Gunn. Mr. Gunn left no real estate and no estimate was made public of the value of his personal property.

OCTOBER PRODUCTION OF TIRES & TUBES DROPS

Decline Continues in Factory Output, With Shipments Also Well Below September Figures—Casing Inventories Reach Lowest During Year.

THE decline in the production of pnuematic casings and inner tubes durinb October was not as sharply marked as was expected and apparently indicates that the pendulum is swinging back to a larger production which will be reflected in the November figures. The figures as released by the Rubber Association of America, represent 75 per cent of the total industry and have been brought up in each case mentioned herein to equal 100 per cent.

A grand total of 4,777,172 pneumatic casing of all types were manufactured during October as against 4,821,870 in September, a comparatively slight drop of approximately 50,000 casings. Factory shipments and inventory stocks of casings showed a like decline and very nearly in the same proportions. The total shipments, however, declined more noticeably from a total of 5,717,000 in September to 4,799,273 in October. Inventories of casing fell from 9,721,725 in September to 9,667,965 casings.

With the declines in production and shipments it is encouraging, of course, to see the lower inventory figures. The present inventory total sets a low record for the year.

The same conditions are present as regards stocks, production and shipments of inner tubes as are shown by the above figures for pnuematic casings, with the exception that inventories of inner tubes showed an increase in stocks over the preceeding month. Total stocks on hand at the end of October were 13,539,592 tubes as compared with 13,511,000 tubes at the end of September. The number of tubes produced during the month of October was 5,065,328 as against 5,651,450, or a decline of approximately 500,000 tubes. The greatest drop came in factory shipments as was the case in pneumatic tires, the total shipments during October being 5,024,757 as against 6,757,800 during September.

A detailed comparative table of these figures covering October and the previous months will be found in the statistical section of this issue of THE RUBBER AGE.

The Ionia Rubber Company, Ionia, Michigan, are reported to be ready to begin operations in the near future. The company is composed of Richard Cowen and Henry Walters, both of Chicago, and will manufacture raincoats. The company will be located in the old Sorosis factory at Ionia.

CATALPO!

DuPont Cellophane Used in Packing Tire Boots to Prevent Their Sticking Together

ARCHER RUBBER BUILDS NEW ADDITION TO PLANT

The Archer Rubber Company, Milford, Mass., rubberizers of fabrics and makers of rubber clothing, are increasing their factory space by the building of an addition of stucco mill construction totalling 22,000 feet of additional floor space. The factory now employs 400 to 500 people, and the new addition will give employment to 100 more.

Officers and directors of the company are: President, John T. Callahan, Milford; clerk and treasurer, Franklin P. Lee, Milford, and Dr. F. T. Harvey. Certificate of condition recently filed with the state shows the following:

ASSETS	
Real Estate	$105,262.84
Machinery	89,443.29
Merchandise	247,867.40
Fixtures	4,876.18
Notes Received	17,065.59
Accounts Received	260,554.33
Cash	28,273.55
Securities	42,576.95
Patent dep.	280.00
Good will def.	14,225.54
	$810,425.67

LIABILITIES	
Accounts Payable	$126,797.56
Notes Payable	3,405.41
Reserves Dep.	47,879.89
3,000 Common Shares, no par value	632,342.81
	$810,425.67

Achelis Estate Appraised

Under the final appraisement of the estate of the late Fritz Achelis, former president of the American Hard Rubber Company, who died in 1924, the estate is valued at a total of $3,930,121, according to the recent announcement of Maurice A. Stephenson, Deputy Commissioner of Taxation and Finance of the City of New York.

Under the original terms of Mr. Achelis' will the chief legatee was his son, the late Frederic G. Achelis. Bequests were made to thirteen charities and institutions.

Mr. Achelis was more than eighty years of age at the time of his death, but up to within a week of his passing he was actively at work at the executive offices of the American Hard Rubber Company.

NEW PACKAGING METHOD USED WITH RUBBER GOODS

A new development in the packaging of auto boots, and one which may have a far reaching effect as regards the packaging of other rubber products, has recently been adopted by the Rubber Products Company, Inc., of Fort Worth, Texas, and other leading manufacturers.

Instead of using cloth or paper on the outside of the patches or "boots" to prevent them from sticking together and also picking up foreign substances, DuPont Cellophane is now used. This peels off easily and does away with the stickiness which, in most cases, is a source of annoyance to the user before actually using the patch. Dealers also have come to appreciate the qualities of this form of packaging which at the same time reduces "shop-worn" merchandise.

Another interesting use for Cellophane in connection with rubber goods is that adopted by the I. B. Kleinert Company. Among the several packages put up in Cellophane by this concern is their Baby Set, attractively displayed in a colorful box, with cut-out windows in the inner cover. Transparent Cellophane is placed over the entire unit, thus protecting the articles while revealing them perfectly through the opening.

The accompanying photograph shows the application of Cellophane packaging in connection with auto boots and was taken at the exhibit of the DuPont Company at Atlantic City, N. J.

DU PONTS ACQUIRE BLOCK OF U. S. RUBBER STOCK

In explanation of the rumor which had been current in financial circles for some time to the effect that DuPont interests had acquired a substantial block of stock of the United States Rubber Company, Irenee DuPont, vice-president of E. I. DuPont de Nemours & Co., has issued a statement confirming the report, but stressing the fact that the purchase had been made as a private investment by him and a few other individuals associated with him, and that "the purchase in no wise parallels the permanent investment in the General Motors Corporation common stock made by the DuPont Company." At the same time he stated that the figure of 300,000 shares which was the reported amount acquired, was a "gross exaggeration."

Some time ago the announcement that the DuPont company had acquired a block of 114,000 shares of United States Steel stock led to an investigation by the Federal Trade Commission which is still pending.

CATALPO!

Rubber Chemists Select New Location for January Meeting

Beaux Arts Grill Now Announced as Meeting Place for New York Group of Rubber Division, A. C. S.—Henderson to Speak on Crude Rubber Trading and Exchange Operations

WITH the exception of a change in place at which the meeting will be held, plans for the first meeting of the New York group of the Rubber Division, American Chemical Society, on January 11, have gone forward without interruption. On account of the fact that the committee plans to have an orchestra play during the dinner, and music is not allowed at the Town Hall Club before 8:30 p. m., the meeting place has been changed to the grill room of the Beaux Arts Restaurant, 80 West 40th street.

The committee in charge of the event, headed by Dr. A. A. Somerville, regards the change as entirely favorable since the location is probably more convenient for most of those who will attend and the Beaux Arts is able to furnish excellent accommodations. The grill room will seat at least 200 and makes an attractive setting for the event. In view of the interest which rubber technologists and others are expressing in the meeting, the committee feels that the capacity of the grill room will be none too great.

The price of the dinner will be $1.50. The event is not to be regarded in any way as formal and informal dress will be in order. Reservations for the dinner can now be made and the committee hopes that it may have a prompt response from those planning to attend. Reservations, accompanied by checks at the rate of $1.50 per plate, should be sent to A. A. Somerville, 50 East 42nd street, New York City. Although those who are not able to tell up until the last moment whether they will be able to attend will be welcomed without a reservation having been made, the committee states that its work will be greatly facilitated if reservations are made by everyone.

Henderson to Speak

The speaker will be F. R. Henderson, president of the Rubber Exchange of New York. His talk will cover the more technical aspects of the buying and selling of rubber and the operations of the New York Rubber Exchange. A complete description will be given of the steps in getting rubber from the producer to the consumer and all the types of commercial transactions which may be involved. This is a subject, the committee believes, with which the rubber technologists, as well as many other members of the rubber industry, are not fully familiar. Following the speech, there will be plenty of time for discussion and Mr. Henderson will reply to questions on any points not already covered.

Since the $1.50 paid by each person attending the dinner will not cover the total expenses which the committee will incur, chemical supply houses will be asked to contribute to a small fund to defray the cost of the music and other incidentals.

F. R. Henderson
To Speak at First N. Y. Group Meeting

Dr. Somerville is anxious that there should be a wide acceptance of the committee's invitation for non-technical members of the rubber industry to attend the meeting. Since the event will give the technologists who have been unable to attend the semi-annual meetings of the Rubber Division a chance to meet with the senior chemists, they are expected to make their reservations without much urging. All members of the rubber industry will be welcome.

The New York section of the American Chemical Society is helping, by means of a notice in their organ, *The Chemical Indicator*, in bringing the meeting to the attention of technologists throughout the New York district.

The chairmen in charge of the organization of local groups in Akron, Boston and Los Angeles are developing their plans, but the work is not yet sufficiently advanced to permit a definite announcement.

Production has been running at capacity at the Beacon Falls Rubber Company plant, at Beacon Falls, Conn., having been speeded up to meet the increasing demand for winter footwear. The company is manufacturing besides its standard rubber footwear, a number of novelty gaiters and new designs in rubber shoes.

INDIA TIRE ARRANGES FOR SCOTCH FACTORY

The large factory buildings at Inchinnan, near Renfrew, Scotland, constructed and used by William Beardman & Co., the famous engineering firm, for the fabrication of aircraft during the war, are reported to have been taken over for conversion into an automobile tire factory by a combine composed of the India Tire and Rubber Company, of Akron, Ohio, and Taylor & Melville, of Glasgow.

The great airship shed, previously erected on this site, has been demolished, but most of the other buildings remain.

The plan of the India Tire and Rubber Company in entering the manufacturing field in Great Britain will place them in a position to compete more favorably with British-made tires and at the same time will enable them to avoid the imposition of duties on their American-made product. This project also adds another American manufacturer to the steadily growing list of American rubber companies now fabricating tires in the United Kingdom.

FARREL PLANTS STILL TO MAKE RUBBER MACHINERY

The persistence of false rumors to the effect that the manufacture of rubber machinery would be discontinued in the Farrel Foundry & Machine Company's plants, now that that company has completed a merger with the Birmingham Iron Foundry, has led Franklin Farrel, Jr., vice-president of Farrel-Birmingham Co., Inc., to make the following statement in order that the many rubber factories using their equipment might be correctly informed:

"As is usually the case there have been a great many false rumors in connection with the merger of the Farrel Foundry & Machine Company and Birmingham Iron Foundry. We believe it is best to pay no attention to most of these rumors, but there is one which a number of our customers have inquired about. It is that the Farrel Plant in Ansonia is going to discontinue the manufacture of rubber machinery and devote itself to its other lines while the Birmingham plant will devote itself exclusively to the manufacture of rubber machinery.

"This rumor is entirely erroneous. We intend to manufacture rubber machinery, insofar as we can get orders for it, in all of our plants and we have no intention of discontinuing any part of the line in any of the plants of this company."

Auto Show Space Sold Out

All space for exhibition purposes has been reported sold out for the coming automobile shows in both New York and Chicago. Interest in the shows has been especially keen this year and both exhibits promise to excell all previous records. All the available space in the New York Show was taken up several weeks ago.

Henderson Optimistic for 1928; Stresses Exchange Benefits

Finds Conditions Highly Satisfactory in All Branches of the Industry —Outlook Promising for Coming Year With Higher Consumption and Record Tire Output

THE year 1927 was one of general satisfaction to all branches of the rubber industry and 1928 gives promise of being another good year, in the opinion of Francis R. Henderson, president of the Rubber Exchange of New York. Reviewing the passing year and discussing the outlook for the new one, he says that today the chief problem is how America is going to get sufficient rubber in the future to keep pace with the steadily increasing demands of the industry. He sees no indication, however, that Great Britain will further tighten the Stevenson restriction act to endanger America's requirements for 1928.

"The price level for crude rubber during the year just closed must be considered satisfactory to all branches of the rubber industry," said Mr. Henderson. "The high price of the year was 41¾ cents in March and the low price was 33 cents in September. Such a narrow range of fluctuation obviates the necessity of taking big inventory losses, and has encouraged the manufacturers to maintain their recently adopted policy of 'hand-to-mouth' buying.

Exchange Proves Usefulness

"The Rubber Exchange of New York has unquestionably demonstrated its usefulness, and the increasing amount of business being executed on the floor of the Exchange for account of European, as well as Far Eastern houses, indicates the endorsement of an organized market by crude rubber interests the world over. When we consider the value of America's requirements for crude rubber as over $350,000,000 in the past year, we can better appreciate the necessity of an organized market rather than the former 'hit and miss' condition which prevailed.

"Today the problem is how will we get enough rubber in the future to keep pace with the developments of the future. At the instance of Secretary Hoover two years ago, an intensive conservation policy was adopted by American rubber manufacturers, and it is still being practiced, but in spite of the increased use of reclaimed rubber, the intensive development work in the laboratories of the factories, and the scientific research to a highly commendable extent, we are still left with the one indisputable fact that nothing can take the place of that peculiar life which is found in the milk from the rubber tree. More rubber will be planted, and the principles of Mr. Burbank's life work will be applied to the rubber tree. As we gradually get the higher yield per acre, costs will naturally be largely reduced, and the market price of rubber will offer the means of almost limitless development of new uses.

"I remember many years ago one of our most eminent rubber manufacturers remarked that if the market price of rubber would permanently remain in the neighborhood of twenty-five or thiry cents per pound, the streets of all large cities could be paved with rubber. Under the circumstances, all talk of surplus stocks need cause no more than temporary anxiety, and that from only a market standpoint.

World Rubber Position Today

"The situation today is about as follows:

"We have a world stock of approximately 250,000 tons. We will have consumed in 1927 about 610,000 tons, including absorption in all countries. It requires about two months to get rubber from its source to the point of consumption, so that the stock, in relation to requirements, is hardly above normal.

"Prices today return the producer a very fair margin of profit, and in turn enable the manufacturers to give the public rubber goods at attractive prices.

"We still have the British restriction law to contend with in any estimate as to the ensuing year, but there is no indication at present that they will again attempt to withhold supplies to the danger point. In 1925, when rubber prices soared to $1.20 from approximately the same level as today, a great part of the advance was due to panicky buying on the part of consumers, as well as speculators. This is all out of the question with an organized market. Price fluctuations on the Rubber Exchange are in tenths of a cent, and, while the turnover during 1927 was nearly 150,000 contracts of 2½ tons each, the movements in the market were confined within a range of less than ten cents per pound.

"As the Exchange becomes better known, the volume of business will naturally increase, and the greater the number of traders or operators on any exchange, the more gradual the price movement must be. Manufacturer and producer alike can now find an immediate response whether he wishes to buy or sell for price insurance.

"I look for a very broad development in the rubber industry during 1928. It undoubtedly will be a banner year in the automobile business, and our tire factories are well equipped for increased production. With wide fluctuations in rubber eliminated, the new year is one of great promise in the industry."

GENERAL TIRE BOOSTS DIVIDEND RATE TO 12%

Not satisfied with declaring an increase in the dividend on the common stock from 8 per cent to 12 per cent, the General Tire & Rubber Company, at the meeting of its board of directors on December 12 announced a special Christmas cash dividend of 8 per cent.

In reporting the position of the company to the board of directors, William O'Neill, president of the company, declared that "the percentage of growth for the first half of the year was easily the greatest made in the rubber industry. Business for the last half of the year has been equally as good. All signs are for another good year in 1928 when it is hoped that the new 12 per cent dividend rate can be maintained."

Figures on the company's business for 1927 will be made public at the annual meeting on December 29.

Dayton Rubber Showing Good

The financial statement of the Dayton Rubber Manufacturing Company, of Dayton, Ohio, shows a net profit for the ten months ended October 31, 1927, of $1,030,385, after deducting depreciation, interest and Federal taxes.

Balance sheet as of October 31, 1927, shows total assets of $4,330,901 and common stock and surplus $1,595,780. Current assets were $2,642,635 and current liabilities $281,939, a ratio of 9 to 1.

F. W. Sharts

F. W. Sharts, vice-president of H. Muelstein & Company, and manager of their Boston office, died December 18, after an illness of two weeks. He was 46 years of age.

Mr. Sharts had been connected with his firm for 16 years and had had charge of the New England territory since 1921.

George E. Shaw

George Edwin Shaw, production superintendent of the wire division of the National India Rubber Company, of Bristol, Mass., died suddenly on December 4, of heart disease while on a fishing trip. Mr. Shaw had been connected with the National India Rubber Company in an official capacity for many years.

Tire Fabric Mill For Sale

15,000 spindles, complete, machinery in A-1 condition. Can be inspected at any time.

Address Box 475
The Rubber Age, 250 West 57th St., N. Y.

CATALPO!

1927 IS RECORD YEAR FOR FIRESTONE CO.

Annual Report Shows Net Profits of $13,780,966 — Dividend Rate Increased to 8 Per Cent—Earnings Put at $33.89 Per Share.

THE report for the year ending October 31 read at the annual meeting of the stockholders of the Firestone Tire & Rubber Company, at Akron, on December 15th, showed 1927 to be the best year in the history of the Firestone company, with sales totalling $127,696,759 and net profits after deducting all charges of $13,780,966. Net profits in the previous year were $7,622,339.

In spite of the high figure the total sales this year were lower than the total for the preceding year which aggregated $144,397,626, but while the total sales in dollars were less the sales in units were larger, due to the large increase in dealer sales which more than offset a reduction in the number of tires sold to manufacturers.

The annual dividend rate on the common stock was increased from 6 to 8 per cent by the action of the meeting in voting a special $2 dividend on each share and recommendation was also made to the board of directors to maintain the 8 per cent basis for the first quarter of 1928.

Profits Show Large Increase

The total net profits amount to $33.89 per share of common stock as compared with $16.90 per share in the previous year. Unit sales of the company were reported at 30 per cent greater than the preceeding year, with every indication that the sales for the coming year will be even greater now that Ford is back in production. The export sales of the company showed a gain of over 100 per cent.

Harvey S. Firestone, president, in making his annual report reminded the stockholders that the company would soon have the new plant in Los Angeles completed and in production and that the Canadian plant had been enlarged during the year to meet the increased demand in that market. He also announced that negotiations were continuing looking toward the purchase of a factory site in England for manufacture in that market also. Satisfactory progress was reported in connection with the Liberia plantation project, where 15,000 acres were reported as planted during the year.

In connection with efforts on the part of the company to combat the effects of the British Restriction Act, it is estimated that five years ago these countries furnished less than 25 per cent of the world's rubber and now are supplying over 50 per cent. We are finding it to our advantage to secure rubber from our ten buying offices in the primary markets of the Far East, which is shipped to out Singapore plant, where it is washed, refined and graded and shipped direct to Akron."

The balance sheets shows assets of $100,972,920 of which $54,295,944 are current. Current liabilities total $7,382,943, a ratio of better than 7 to 1. Reductions of $500,000 in outstanding 6 per cent preferred stock and $459,600 in 7 per cent preferred were made, although the bonded debt was increased through the financing of the California plant and the Firestone Cotton Mills.

In the assets of the company cash is listed at $12,131,645, receivables at $15,467,688 and inventories including finished products or those in process totaled $26,969,610. The surplus fund amounted to $50,131,826. This is an increase of $9,000,000 over the surplus fund of $41,426,897 of October 31, 1926.

Among the assets of the company are included 29,713 shares of common stock sold to employees, amounting to $2,060,621. Real estate and plants are valued at $28,567,912.

All directors of the company were re elected. These include in addition to Harvey S. Firestone, Sr., John W. Thomas, Stacy G. Carkhuff, Carmon A. Myers, John J. Shea, Harris Creech and Harvey S. Firestone, Jr.

Dunlop Plantations, Ltd.

Dunlop Plantations, Ltd., the rubber growing subsidary of the Dunlop Rubber Company, Ltd., are reported to be ready to offer on the market £2,500,000 in six per cent cumulative preferred shares. It is understood that the dividends will be guaranteed by the parent company.

The Dunlop Plantations, Ltd., controls the largest group of rubber estates under one ownership in the British Empire. At the close of 1926, the total area in bearing was 43,801 acres and clearing and planting during the current year has been extended to 11,500 additional acres. The crude rubber output of the company for the last year has been approximately 16,000,000 lbs.

Sun Company Addition

The Sun Rubber Company, Barberton, Ohio, has practically completed the addition to its factory and hopes to be able to get into the new part of the building early next month. The new structure has been erected at a cost of $50,000 and when completed will allow for an increased production of double the capacity of the present plant. The Sun Rubber Company has announced no changes in its production plans and it is understood that it will continue to manufacture rubber sundries exclusively.

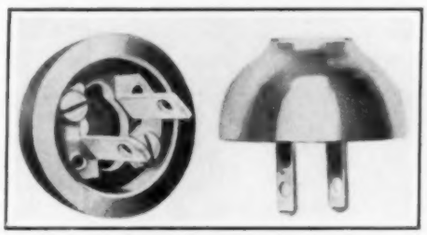
New Canadian Plant

The Coutlee-Muir Rubber Company of Canada is expanding its operations and will build a modern plant at Joliette, Quebec, at a cost of $50,000. The company manufactures automobile tubes, tires and druggists' sundries. Heretofore the company has operated on a small scale and has been privately owned but is now planning to finance the work of expansion by a public offering of a $150,000 issue of 6 per cent debenture bonds. At present there are 25,000 shares of common stock outstanding of no par value.

BREAKAGE OF PUSH PLUGS SAVED BY THESE DEVICES

A NEW type of unbreakable attachment plug made of rubber is announced by the Cutler-Hammer Mfg. Co., Milwaukee, Wisconsin. This rubber plug is not only unbreakable but should also be or interest to factories, repair shops and other users of small motor driven tools because impact on cement or wood floors will not harm the plug or the floor.

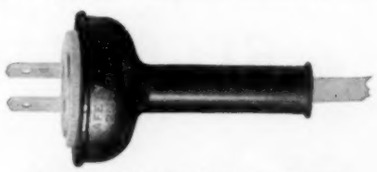
The plug is made of a high grade of rubber and is very light in weight. The terminals are fastened in a Bakelite strip firmly embedded in the rubber base. Rivet and anchor construction hold the terminals to the Bakelite and keeps them from turning. Staked screws prevent loss and save time in wiring.



C-H Rubber Attachment Plug

When the plug is used with rubber cord it is easy to relieve the strain between cord and plug by applying a small dab of ordinary rubber cement between the two which holds them firmly and permanently together.

The ordinary type of electric push plugs can be protected against breakage by a rubber cap which is offered by the Erickson Mfg. Co., Cleveland. This cap is also made with an extended shank which serves as a handle.



C & E Rubber Cap for Plugs

The C & E safety handle and plug protector, as the Erickson product is known, is made of a special oil-resisting rubber compound. Installation is simple, consisting only of pushing the protector into place. Not only is the plug saved from breakage but the cable covering is protected against excessive wear. Its use is recommended on all portable electric appliances.

Marathon Rubber Co. Branch

The Marathon Rubber Company, Akron, O., has announced the establishment in a few weeks of a fully equipped factory branch at Jacksonville, Florida. G. C. Osman, president of the Marathon Rubber Company, was in Jacksonville recently and looked over the proposed site for the new branch with C. E. Sims, of the Sims Tire Company, the state distributors of Marathon products.

GENERAL CABLE CORP. PERFECTS MERGER PLANS

The final steps in the amalgamation of the Safety Cable Company, Rome Wire Company, Standard Underground Cable Company and the Dudlo Manufacturing Company into the General Cable Corporation, as reported in the October 25 issue of THE RUBBER AGE, have been completed.

The first meeting of the board of directors of the new corporation was held November 16, resulting in the election of the following officers: Walter Robbins was elected president; Joseph W. Marsh, chairman of the board of directors; W. C. Hall, treasurer; G. C. Thompson, controller; G. K. B. Wade, vice-president; Alfred A. Cook, general counsel, and H. T. Dyett, Walter F. Field, George A. Jacobs, P. H. W. Smith and Roger Strauss, vice-presidents.

The executive committee is composed of F. H. Brownell, chairman; H. T. Dyett, Walter F. Field, George A. Jacobs, Walter Robbins and P. H. W. Smith, with the chairman of the board of directors ex-officio.

Coincident with the election of the new officers, the corporation announced the floatation of a $16,000,000 bond issue carrying 5½ per cent, of which $11,682,000 will be retained in part payment for assets. The balance of $4,318,000 was offered on the market throukh Dillon, Read & Co. and Kissel, Winnecutt & Co., at 99 and accrued interest.

RUBBER PLANTS ESCAPE NEW ENGLAND FLOODS

With the complete recession of the floods from the Connecticut River Valley in New England comes the confirmed news that the rubber manufacturing plants in the area were not materially damaged, the floods merely necessitating the cessation of operations for a day or two.

Three of the plants of the United States Rubber Company were temporarily put out of commission, but resumed work within three days.

Fisk Branch Moves

The New York branch of the Fisk Tire Company has moved from the first floor of the Fisk Building, at 57th street and Eighth avenue, to new quarters, at 109-123 West 64th street, where it will occupy the entire westerly store and basement adjoining the Broadway corner. The move is made necessary by the fact that the new Eighth avenue subway will have a station in the Fisk Building in the space which the branch occupied. The head offices of the Fisk organization will remain in the Fisk Building.

The Philadelphia Rubber Works Company

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Twenty years' experience with the largest and most successful companies in the country

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CATALPO!

New Equipment for Rubber Factories

NEW INNER TUBE VULCANIZER ANNOUNCED

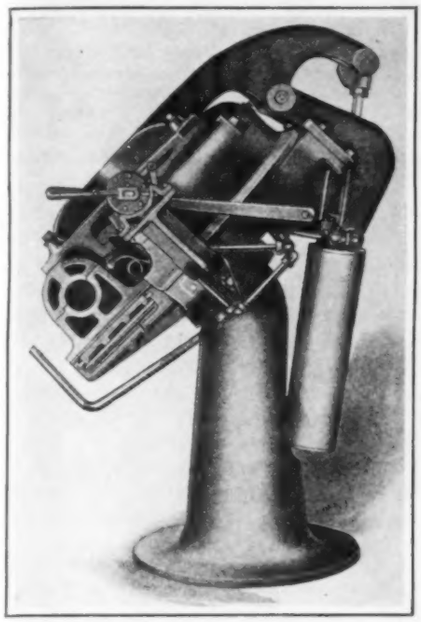


Fig. 1—Cutway View Showing Unit Closed

A NEW vulcanizer for molded inner tubes, for which many advantages are claimed, has just been introduced after many months of development by the Akron Rubber Mold & Machine Co., Akron, Ohio. Not only is it stated that the use of a rubber diaphragm in the lower half of the mold insures a rindless tube but it also assures one with walls of a uniform thickness.

Referring to the cutaway section shown in Fig. 1, the mold closing pressure is obtained by means of the rubber diaphragm located in the housing beneath the lower mold half. This lower mold half is full floating and is held in position by the register on the inside diameter. When the upper half is dropped into position the freely rotating breech lock is moved into the locked position and fluid pressure is admitted to the inner tube and diaphragm simultaneously. The volume of the diaphragm is much less than that of the tube with the result that the mold halves are tightly forced together.

The piston area of the diaphragm is 60% greater than that of the largest tube, consequently all rind resulting from the separation or springing of the mold halves is eliminated. Thin spots in the tube wall are overcome by the speed with which the mold is closed under full pressure after the tube has been placed in position.

Other features of this new vulcanizer are the high production rate which is possible on account of the speed of operation, ease of interchangeability which requires only two

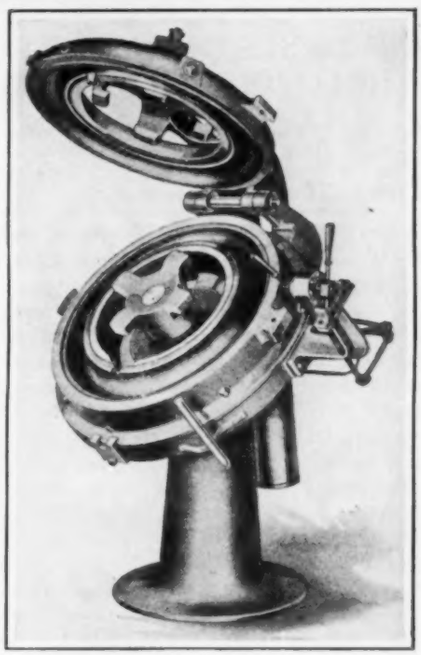


Fig. 2—View Showing Vulcanizer Open

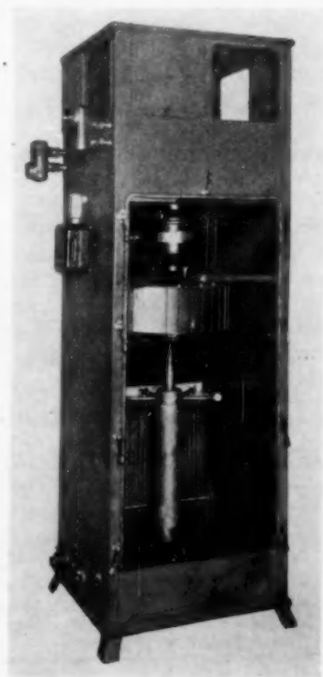
size units to take care of the complete range of tube sizes and the small floor space required for each unit. Molds can be changed simply by removing the four screws from the top half, breaking the steam connections and removing the mold.

New Refrigerator and Air Conditioning Units

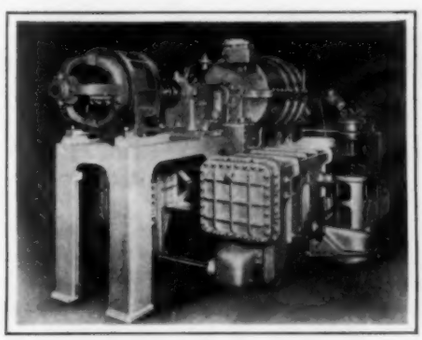
TWO recent developments of the Carrier Engineering Co., Newark, N. J., of interest to rubber engineers, are the Air Conditioning Unit and the Centrifugal Refrigerating Machine, both illustrated on this page. The air conditioning unit has been in process of development for some time and has just been brought out. It is a complete, self-contained machine in one unit including a motor, fan, water sprays and pump, also Aerolin heater. There is only one moving part in the entire machine, a single rotor.

The application of the machine would be in any case where it is desirable to maintain and control humidity and temperature. For dehumidifying purposes, as for example in a rubber goods dipping room where it is desirable to maintain a humidity low in comparison with a high outdoor humidity occuring during some summer days, it is necessary to supply cold water to the machine. For purposes of maintaining a high relative humidity it is necessary only to supply water to make up for evaporation.

The centrifugal refrigerating machine consists of a compressor, condensor and evaporator all in one unit. This compactness enables the use of one of these units in a corner of a rubber mill room with short



Air-Conditioning Unit



Centrifugal Refrigerating Unit

cold water lines connecting to the mills or calenders. It is said to be absolutely safe, long-wearing, highly efficient and almost entirely automatic in operation, being provided with automatic temperature control for the cold water. The refrigerant used is a stable, non-corrosive, non-inflammable liquid, methylene chloride, called "Carrene." The unit illustrated is the 75-ton model.

First Descriptions of New Factory Equipment are usually found in The Rubber Age

Financial Items *Rubber and Motors*

CRUDE RUBBER MARKET HOLDS QUIET AND FIRM

Trading Steady With Little Fluctuations Over Past Fortnight, in Spite of Active Interest—More Foreign Buying Interest Manifested.

WHILE trading has been very active on the floor of the New York Rubber Exchange, the fluctuations between extremes have been very narrow, and the entire range of prices for all positions closed on December 17 at practically the same quotations as prevailed on December 3. The upward trend in the early part of the month was blocked by profit-taking but at the same time sufficient factory demand was manifested to hold the price levels from any sharp decline. Manufacturers interests have centered largely in the earlier positions with March a particular favorite.

A feature of the trading has been the foreign buying interests which have come into the market within the fortnight and the general outside interest which has made itself felt. The usual holiday quietness, however, has slowed down trading within the last few days. With the factory interest so much in evidence, sellers have not been anxious to make offerings.

Exchange Votes Holiday

Members of the Rubber Exchange of New York have voted to close the exchange on Saturday, December 24. As Christmas day will be observed on Monday, December 26, this will made a triple-day holiday for the New York rubber brokers.

EXCHANGES ACTIVE IN RUBBER SHARES

Sales of rubber company stocks have been active during the last fortnight and several new highs have been established. The Firestone and Lee company statements, combined with the reports that other rubber manufacturers were going to show equally encouraging figures on earnings, have given the market an impetus. Satisfactory reports of new business in hand and promising outlooks for the coming year have also contributed toward the confidence in rubber investments.

General Tire & Rubber and Firestone have increased their dividend rates and have also established new peak levels in stock quotations. Seiberling and Goodrich have also improved. With the announcement that DuPont interests were active in United States Rubber as an investment the speculative value of both the common and preferred increased and both issues have been especially active.

Latest Stock Prices

	Last Price		—1927—	
	Dec. 17	Dec. 3	High	Low
Ajax	10¾	9⅝	13	7½
Firestone	189	187	206	117
do 6% pfd.	108	107	107	107
do. 7% pfd.	107½	107	107½	98½
Fisk	16	16⅛	20	14⅞
do 1st pfd.	90½	91½	100	81
General	187	178	187	140
do pfd.	106	110½	110½	99¼
Goodrich	94¼	87	96	42¾
do pfd.	110½	109⅞	111⅛	95
Goodyear Com.	59⅝	58¼	64	50⅝
do pr. pfd.	95⅜	95¼	118⅛	104½
do pfd.	120	120	121	98½
Hood	43½	43⅞	47	39
India	15	15	30	15
Intercontinental	21¾	21	22⅝	11¾
Kelly Springfield	28½	29¼	32¼	9½
do 1st pfd.	76	84	96	44
do 8% pfd.	82½	88	98½	35
Lee	16⅜	14½	16¾	7
Miller	21⅜	22½	36¾	25½
do pfd.	93½	92½	104	99
Mohawk	24½	26	26	15
do pfd.	57	60	65	55
Seiberling	39	37	39½	21⅜
do pfd.	104	102½	104	96
Star	2½	2½	2½	1½
U. S. Rubber	56½	53⅞	67⅛	37¼
do pfd.	104	98⅞	111⅜	85¾
U. S. Rubber Reclaiming	—	—	12	12
do pr. pfd.	—	—	24	24
do series A	—	—	15	15

General Tire Stocks Slump

The stock of the General Tire & Rubber Company suffered heavily in a bearish movement on the Cleveland stock exchange during the closing hours of the session on December 16. The heavy selling was precipitated by the news of the serious illness of Michael O'Neil, chairman of the board of directors of the company. Mr. O'Neil died late the same evening.

As a result of the large blocks of the company's stock which were thrown on the market the price declined from 185 to 120, which was the greatest fluctuation that has occurred in the Cleveland Exchange in the history of local trading. At the close, however, the stock had recovered to 151.

Rubber Exchange Seat Sold

The latest price for a seat on the New York Rubber Exchange was $5,500. The seat was recently bought by Carroll V. Geran, of New York from Francis H. Robinson, Jr., and represented an advance of $500 over the previous sale. The price of a seat when the Rubber Exchange was organized was $1,000.

YEAR TO SHOW GOOD PROFITS IN INDUSTRY

Auditors Already Busy on Annual Statements for Directors Meetings—Gains Expected in Financial Position of Majority of Industry.

THE Akron rubber manufacturers are already beginning to total up their balance sheets and ledgers anticipatory of the close of the year and the presentation of financial statements to their board of directors. Auditors are busily engaged in almost all of the plants in going over books and accounts.

Prophesies in the most cases are expressed in favorable phrases and the year is expected to close with the majority of the rubber manufacturing industry in excellent shape as regards their financial position and showing very satisfactory returns over the general run of the year.

The Seiberling Company has already issued its report indicating a profit of $1,356,707.90 and paid its first dividend on the common stock after five years of operation.

Firestone's statement, made at the meeting on December 15, is reported elsewhere in this issue. General Tire & Rubber Company will hold its meeting on January 9 and is expected to show a substantial profit. India Tire & Rubber Company makes their statement the same day. Aetna Rubber, Mohawk and Mason Tire & Rubber will give out their returns at their director's meetings around the middle of February.

Miller Passes Dividend

The board of directors of the Miller Rubber Company at their meeting on December 17 declared the regular quarterly dividend on the preferred stock of the company payable March 1, 1928, but passed the dividend on the common stock. According to a statement issued by the president of the company, Jacob Pfeiffer, the directors in passing the common dividend were of the opinion that earnings for the past year did not warrant the payment of the dividend at this time.

Closing Prices on Rubber Exchange of New York, Inc.

DECEMBER 3 TO DECEMBER 17, 1927

Date	Spot	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Sales*
Dec. 5	40.50	40.40	40.80	41.20	41.70	41.90	42.00	42.10	42.40	42.50	42.60	42.70	42.80	661
6	41.00	40.80	41.20	41.70	42.20	42.30	42.40	42.50	42.60	42.60	42.70	42.90	43.00	1109
7	40.60	40.50	40.80	41.30	41.70	41.70	41.80	41.90	42.00	42.10	42.10	42.30	42.40	604
8	40.20	40.20	40.30	40.80	41.20	41.30	41.40	41.50	41.70	41.70	41.80	41.90	42.00	584
9	40.80	40.70	41.00	41.50	41.90	42.10	42.20	42.30	42.40	42.50	42.60	42.70	42.80	793
10	40.80	40.50	41.00	41.30	41.80	42.00	42.10	42.30	42.40	42.50	42.70	42.80	42.90	84
12	40.40	40.20	40.50	41.00	41.30	41.50	41.70	41.80	42.00	42.20	42.40	42.50	42.60	505
13	40.00	39.80	40.40	40.70	41.20	41.40	41.60	41.70	41.70	41.90	42.00	42.10	42.20	442
14	39.90	39.80	39.90	40.30	40.80	40.90	41.00	41.20	41.30	41.50	41.60	41.70	41.80	797
15	39.80	39.60	39.70	40.10	40.50	40.60	40.70	40.90	41.00	41.10	41.20	41.30	41.30	607
16	39.80	39.80	39.90	40.40	40.80	41.00	41.20	41.20	41.30	41.40	41.50	41.60	41.70	559
17	40.30	40.10	40.40	40.80	41.40	41.50	41.60	41.70	41.80	41.90	42.10	42.20	42.30	339

(*) In lots of 2½ tons each

New Jersey Zinc Report

The last financial statement of the New Jersey Zinc Company, manufacturers of zinc oxide and lithopone and well-known supplies to the rubber manufacturing industry, shows a slight drop in income during the September quarter, but an increase for the total nine months of the current year.

The figures for the September quarter show a net income of $1,610,106 after all taxes, charge, depreciation and depletion, equivalent to $3.28 a share earned on 409,816 shares of stock. This compares with $1,975,514, or $4.02 a share, in the second quarter, and $1,673,823, or $3.41 a share, in the third quarter last year. Net income for the first nine months was $5,355,100, or $10.91 a share, against $4,965,257, or $10.11 a share, a year ago.

Weartex Opens in Baltimore

The Weartex Rubber Company, of Trenton, N. J., manufacturers of rubber heels, soles and allied rubber footwear articles, has announced plans to open a branch plant in Baltimore and expects to begin operations at the new plant early in the year.

It is reported that they have acquired the building at 3210-3222 Philadelphia avenue, Baltimore, to which they will add an addition. The new plant has been necessary in order to take care of the increased demand, and does not mean any decline in operations in the Trenton factory, according to Sol Schwaber, president of the company.

Roumanian Dealer in Akron

Adolf Hadraski, president of Firma Adolf Hadraski, of Bucharest, Roumania, and distributor of Firestone tires in that region, recently paid a visit to the Akron factory of the Firestone Tire and Rubber Company. Mr. Hadraski has made a success in handling Firestone tires in Roumania, and has planned to devote his entire time to it to the exclusion of other interests. He was accompanied on his visit to America by Alexander Rieber, of the Bucharest firm of Meribar, leading car importers of the country.

New Source for Lithopone

The Jarvis Island barium sulphate deposits, about forty miles southwest of Port Arthur, Ontario, Canada, are reported to have been recently acquired by the Sudbury Basin Company. It is the purpose of the company to use the material in combination with zinc for the manufacture of lithopone. The deposits have already been worked to some extent.

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10 cents a word, minimum charge $2.00, payable in advance.
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WANTED by a company making golf balls, a man capable of making golf ball thread and tape, who would be willing, for a fee, to give us satisfactory compounds and produce, at our plant, a satisfactory article. Reply to Box 474, advising us fee wanted.

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Chemist, college graduate, with 12 years' experience in various lines of rubber manufacturing, including tires, tubes, molded, dipped and blown goods, seeks a position as chemist or plant superintendent. Will also consider a connection in selling or demonstrating capacity where his technical knowledge can be of assistance. Box 470, THE RUBBER AGE.

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MANUFACTURER on West Coast desires to locate maker of Sponge Rubber Chair Cushions with regards to sale of same. Particulars, terms, confidential. Address Box 472, THE RUBBER AGE.

EQUIPMENT WANTED

WANTED at once, one Walcott-Ryder Cutting Press. Eagle Rubber Co., Ashland, Ohio.

New Patents to Goodrich

Announcements of new patent awards to Clayton W. Bedford of Akron for vulcanizing processes have been made in the official bulletins of the U. S. Patent Office, Washington. Harvey L. Young, also of Akron, has received patents on a conveyor. Both Bedford and Young have assigned their respective patents to the B. F. Goodrich Company of New York.

Vultex Corp. of America

Vultex, Ltd., of Great Britain, has recently organized a subsidiary in the United States, the Vultex Corporation of America, with headquarters at Cambridge, Mass. The concern will manufacture and sell vulcanized latex. Hewett MacPherson, Watertown, Mass, is president.

INDUSTRIAL ENGINEER

Has full knowledge of every phase of HARD RUBBER manufacturing—production, development, estimates and costs. Has proven his ability to create automatic machinery to meet specific needs. Is seeking a position where experience along these lines can be put to advantage. Age 35. Moderate salary. Address Box 473, THE RUBBER AGE.

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17 years Tires, Tubes and Mechanicals. Thorough knowledge all phases production, costs and sales. Can take complete charge of factory and guarantee results to be forthcoming. Large trade following. Employed, but has excellent reason for desire to change. A-1 references.

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Executive Seeks Position

A well-known Rubber man will be open for a position after December 31, 1927—at present he is Superintendent of Rubber Division of a nationally known Chicago fountain pen and pencil company.
Have developed tubing machine-made pen and pencil stock in many color combinations. Tubing machine-made stock imitating the grain in wood in lengths or moulded parts.
Experience covers years in all kinds of Hard Rubber goods and Soft Rubber Moulded work.

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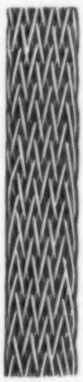

Perfect Beads

Entire freedom from bead trouble in the construction of straight side tires is assured by the use of either National "(Patent)" High Tensile Strength, Flat Woven, Bead Braid on our new (Pratt Patent) Bead Cables. These cables, made to dimensions specified, have seven strands, yet only one piece of wire is used without soldered, welded or brazed joint.

Write for working samples of either National flat braid or Pratt cables (no charge to tire manufacturers) and full information as to our products and service.

Our engineering department tests beads and furnishes complete confidential reports as to their stretch, set and bursting point, without charge. Inquiries solicited regarding this special service.

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FOR THE RUBBER TRADE

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"TUBE" BRAND VELVET
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For Artificial Leather, Oil Cloth,
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DECEMBER 19, 1927

COTTON

THE cotton market has shown a further downward tendency during the last fortnight but there has been a certain steadiness in the declines which has been beneficial to tradings. The consumption of cotton during the first four months of the present crop season has exceeded the absorption during the same period of 1926 by 276,440 bales, and on the strength of demand and the number of unfilled orders on hand at the fabric mills the market has come up slightly within the last few days. The Government's official crop report, giving a total of 12,789,000 bales as the yield for the season, was too near the expected figures to make much difference in the market. Continued steadiness at the present levels is predicted. High, low and closing prices on December 17, were as follows:

	High	Low	Dec. 17 Close	Dec. 3 Close
December	18.90	18.57	18.89	19.53
January	18.93	18.54	18.93	19.50
March	19.10	18.74	19.09	19.68

Tire Fabrics

The market for tire fabrics received considerable stimulus over the last two weeks through the heavy orders placed and the general buying interest which has long been looked for and now has apparently come with a rush. Deliveries up to March have been practically all taken up. Prices are down a trifle but fairly steady.

CORD				
Peeler, carded, 23/5/3	lb.	.43½	@	.44½
Peeler, carded, 23/4/3	lb.	.45	@	.46
Peeler, carded, 13/3/3	lb.	.42	@	.43
Peeler, carded, 15/3/3	lb.	.42½	@	.43
Egyptian, carded, 23/5/3	lb.	.54	@	.55
Egyptian, combed, 23/5/3	lb.	.58	@	.59
CHAFERS				
Carded American, 8 oz.	lb.	.39	@	.40
Carded American, 10 oz.	lb.	.42	@	.43
Carded American, 12 oz.	lb.	.41	@	.42
Carded American, 14 oz.	lb.	.40	@	.41
LENO BREAKER				
Carded American, 8¼ oz.	lb.	.41	@	.43
Carded American, 10¼ oz.	lb.	.41	@	.43
SQUARE WOVEN				
Carded American, 17¼ oz. 23-11 ply	lb.	.44	@	.45
Carded American, 17¼ oz. 10-5 ply	lb.	.39	@	.40

Sheetings

The trading in sheetings has been limited to nominal quantities although there has been a keener factory interest in the last week than has been present for some time. Prices are steady. The latest quotations follow:

40-inch 2.50-yard	yd.	.13	@	.13½
40-inch 2.85-yard	yd.	.11¾	@	.11½
40-inch 3.15-yard	yd.	.12¼	@	.12½
40-inch 3.60-yard	yd.	.10	@	.10¼
40-inch 3.75-yard	yd.	.08¼	@	.09
40-inch 4.25-yard	yd.	.07¾	@	.08

Ducks

A fair quantity of ducks were sold during the last fortnight. Sales of good sized commitments of single filling went at 17 cents with double filling at 18½ cents. Some enameled ducks also was taken up at 36 cents. There has been a decided renewal of interest in this market within the week. Late prices were as follows:

Belting and Hose	lb.	.35½	@	.36½
Enameling	lb.	.35½	@	.39
Shoe Ducks	lb.	.31	@	.35
Single filling	lb.	.15	@	.17½
Double filling	lb.	.18	@	.19

RECLAIMED RUBBER

The demand for reclaimed has maintained steady and in good volumes with factories back in the market for large size commitments. Reports are current that if the market keeps at the present levels there will be a revision of prices upward. There has been no change to date, however, from the price range as last reported.

High Tensile				
Super-Reclaim No. 1 Black	lb.	.17¾	@	.18
Super-Reclaim No. 2 Black	lb.	.14	@	.14½
High Tensile Red	lb.	.16¼	@	.16½
Shoe				
Unwashed	lb.	.08	@	.08¼
Washed	lb.	.10	@	.10½
Tube				
No. 1 (Floating)	lb.	.17½	@	.18
No. 2 (Compounded)	lb.	.14¼	@	.14½
Tires				
Black, washed		.10	@	.10¼
Black, unwashed		.08¼	@	.08½
Black selected tires	lb.	.08¾	@	.09
Dark Gray	lb.	.11¼	@	.12
Light Gray	lb.	.13	@	.13½
White	lb.	.15	@	.15½
Truck, Heavy Gravity	lb.	.07¾	@	.08
Truck, Light Gravity	lb.	.08¼	@	.08½
Miscellaneous				
Mechanical Blends	lb.	.07	@	.08
Red	lb.	.14½	@	.15

Scrap Rubber

The market in scrap rubber has been firm during the last two weeks but has eased off the last couple of days due to the usual holiday dullness. Collections have slowed up and supplies are not being readily offered. The latest quotations on the more common classes of scrap are as follows:

(Prices to Consumer)

Auto tire peelings	ton	36.00	@	38.00
Standard White auto	ton	57.50	@	60.00
Mixed auto	ton	27.50	@	28.00
Bicycle tires	ton	25.00	@	26.50
Clean solid truck tires	ton	28.00	@	30.00
Boots and shoes	lb.	1.70	@	1.75
Arctics, trimmed	lb.	.01⅝	@	.01½
Arctics, untrimmed	lb.	.01	@	.01¼
Inner tubes, No. 1	lb.	.08½	@	.08¾
Inner tubes, No. 2, compounded		.05¾	@	.06
Inner tubes, Red	lb.	.07¾	@	.08
Air Brake Hose	ton	37.00	@	38.00
Rubber Hose	ton	17.00	@	18.00

CRUDE RUBBER

CRUDE rubber on the New York outside market has been fairly steady with only slight variations which have followed the mild fluctuations on the floor of the Rubber Exchange. The quotations listed below as of December 17, are very nearly the same as last reported on December 3. The low consumption during November and the heavy arrivals during the last month can be said not to have been very favorable to crude rubber's statistical position from a trading standpoint but factory interest and the purchase of fairly large commitments during the fortnight have encouraged the market and kept the range of prices relatively firm. The prices on the outside market as of December 17, are as follows:

Plantations—			
Ribbed Smoked Sheets—			
Spot	.40¼	@	.40½
December	.40¼	@	.40½
January	.40½	@	.40⅝
January-March	.40⅞	@	.41⅛
First Latex, crepe spot	.40⅜	@	.40⅝
Amber Crepe, No. 2 spot	.38¼	@	.38¼
Amber Crepe, No. 3	.37⅛	@	.37¼
Amber Crepe, No. 4	.37	@	.37⅛
Brown Crepe, Rolled	.33¾	@	.34
Brown Crepe, Clean, thin	.37	@	.37¼
Brown Crepe, Specky	.36	@	.36½
Liquid Latex, per gal.	1.50	@	1.75
Pontianac—			
Bangermassin	Nominal		
Palembang	Nominal		
Prime Pressed	Nominal		
Sarawak	Nominal		
Paras—			
Up-river Fine	.35½	@	.36
Up-river Medium	.30	@	.32
Up-river Coarse	.26½	@	.27
Acre Bolivian, fine	.35½	@	.36
Tapajos, fine	.42	@	—
Cut Beni Bolivian, fine	.49	@	—
Caucho Ball—			
Upper, shipment	.26	@	.26½
Island, fine	.29	@	.30
Centrals—			
Corinta, scrap	.30	@	—
Esmeralda, sausage	.25	@	.25½
Guayule, washed and dried	.29	@	—
Africans—			
Benguela, No. 2	Nominal		
Congo, upper, black	Nominal		
Congo, upper, red	Nominal		
Balata—			
Block, Colombia	.35½	@	.38
Block, Cuidad	.35	@	.36
Gutta Percha—			
Siak	.24	@	—
Red Macassar	3.00	@	—

LONDON MARKET

Standard Ribbed Smoked Sheets—Buyers			
Spot	19½	@	.19⅝d
December	.19½	@	.19⅝d
January	.19⅝	@	.19¾d
January-March	.19⅞	@	.20d

SINGAPORE MARKET

Standard Ribbed Smoked Sheets—Sellers			
Spot	.19⅝	@	.19½d

Recent daily closing prices on the Rubber Exchange of New York are shown on the Financial Page in the News Section of this issue. Daily spot prices of Ribbed Smoked Sheets are given in the Statistical Section.

LATE RUBBER CHEMICAL PRICES

Accelerators — Colors — Softeners — Compounding Materials

DECEMBER 19, 1927

INTEREST at this writing is largely centered on 1928 contract business. New contracts reveal that, on a whole, prices for rubber chemicals and compounding materials are steady with nothing to indicate any likelihood of a change in the situation for some time to come. Contracts are being written at prices which remain practically unchanged from this year's figures. Some reductions are being made in several accelerators while mineral rubber is slightly easier, but carbon blacks, zinc oxides, lithopones and sulphur are being well maintained at the same levels. This condition serves to show the inherent steadiness in the rubber chemical fields.

Present spot business is above the average for this time of the year, for the holiday season usually means a let-up in production schedules. Akron reports, however, indicate that tire plants continue to be busy. Several minor price changes are reported in this issue (cottonseed oil, raw linseed and Rosin K). Quotations follow:

ACCELERATORS

Organic			
A-1	lb.	.70 @	.80
A-11	lb.	.75 @	.90
A-16	lb.	.65 @	.85
A-19	lb.	.75 @	.90
A-20	lb.	.60 @	.75
Aldehyde ammonia, crystals	lb.	.65 @	.70
Aniline oil, drums	lb.	.17 @	.17½
Crylene	lb.	.70 @	—
paste	lb.	.50 @	—
Di-Ortho-Tolylguanidine	lb.	.85 @	.90
Diphenylguanidine	lb.	.68 @	.72
Ethylidene aniline	lb.	.60 @	.65
Excellerex	lb.	.35 @	.40
Formaldehyde Aniline	lb.	.38 @	.42
Grasselerator 102	lb.	.65 @	.70
Grasselerator 552	lb.	4.45 @	4.60
Grasselerator 808	lb.	1.05 @	1.35
Grasselerator 833	lb.	1.50 @	1.75
Heptene	lb.	.55 @	—
Hexamethylene-tetramine	lb.	.62½@	.67½
Lithex	lb.	.18 @	.20
Methylenedianilide	lb.	.38 @	.40
Monex	lb.	3.25 @	—
Piperidine-Piperidyldithio-Carbamate	lb.	4.45 @	4.60
Quinoidine	lb.	.40 @	—
R & H 40	lb.	.50 @	.55
R & H 50	lb.	.50 @	.55
Safex	lb.	1.20 @	1.25
Tensilac, No. 39	lb.	.55 @	.60
Tensilac, No. 41	lb.	.65 @	.70
Thermlo F	lb.	.50 @	.55
Thiocarbanilide, kegs	lb.	.26 @	.28½
Thionex	lb.	3.25 @	—
Trimene	lb.	.75 @	—
base	lb.	1.20 @	1.35
Triphenylguanidine	lb.	.65 @	.70
Vulcanex	lb.	.82 @	.86
Vulcone	lb.	.70 @	.74
Vulcanol	lb.	1.05 @	1.08
Z 88	lb.	.75 @	1.00
Inorganic			
Lead, sublimed blue	lb.	.08¼@	.08¾
Lead, white	lb.	.10½@	.12½
Litharge, domestic	lb.	.08¾@	—
Magnesia, calcined, light	lb.	.06 @	.12
heavy	lb.	.04 @	.04½

COLORS

Blacks (See Compounding Materials)			
Blues			
Prussian	lb.	.33 @	.35
Ultramarine	lb.	.08 @	.35
Browns			
Sienna, Italian	lb.	.05 @	.12½
Umber, Turkey	lb.	.04½@	.06
Greens			
Chrome, light	lb.	.27 @	.31
medium	lb.	.29 @	.32
dark	lb.	.31 @	.34
Chromium Oxide, bbl.	lb.	.35 @	.38
Reds			
Antimony crimson, 15/17	lb.	.40 @	—
sulphur free	lb.	.50 @	.52
golden 15/17 F.S.	lb.	.16 @	.25
Indian English (dom.)	lb.	.08 @	.10
Oximony	lb.	.13¼@	—
Para toner	lb.	.13 @	.14
Red oxide, reduced	lb.	.10 @	.11
pure	lb.	.14 @	.15
Venetian red	lb.	.02 @	.06
Vermillion, quicksilver, English	lb.	1.85 @	1.95
Whites			
Lithophone, Akcolith	lb.	.05 2/5@	.06
Lithophone, Azolith	lb.	.05¼@	.05¾
Lithopone, Vanolith	lb.	.05¾@	—
Titanox	lb.	.10 @	.10½
Cal. Base Pigment	lb.	.10 @	.10½
Zinc Oxide—American Process			
American Azo:			
ZZZ (lead free)	lb.	.06½@	.07
ZZ (leaded)	lb.	.06⅝@	.07⅛
Zinc Oxide—French Process			
White seal	lb.	.11⅞@	—
Green seal	lb.	.10⅞@	—
Red Seal		.09⅞@	—
Yellows			
Chrome	lb.	.17 @	.20
Ocher, French medium	lb.	.03½@	.06
domestic	lb.	.01⅝@	.02

COMPOUNDING MATERIALS

Aluminum Flake	ton	21.85 @	24.50
Ammonia carbonate	lb.	.13½@	.14
Are-O-Sol	ton	8.00 @	11.00
Asbestine	ton	14.75 @	18.00
Barium carbonate	lb.	.02¼@	.04
Barium Dust	lb.	.05 @	.06
Barytes southern off-color,	ton	12.00 @	18.00
Western prime white	ton	23.00 @	—
imported	ton	27.00 @	36.00
Basofor	lb.	.04½@	—
Blacks			
Arrow "Aerfloted"	lb.	.08 @	.12
Bone Black	lb.	.05½@	.11
Carbon, compressed	lb.	.07½@	.11½
Carbon, uncompressed	lb.	.07 @	.11
Drop Black	lb.	.06 @	.10
Lamp Black	lb.	.12 @	.40
Micronex	lb.	.08 @	.12
Velvetex carbon	lb.	.04 @	.07
Blanc fixe dry f.o.b. works	lb.	.04 @	—
Carrara filler	lb.	.01¾@	.02
Catalpo (fact.)	lb.	.02 @	—
Chalk	ton	12.00 @	14.00
Clay, China, domestic	ton	8.00 @	9.00
Aerfloted Suprex	ton	9.00 @	20.00
Mineral Flour, c. l. fob mine	ton	20.00 @	23.00
Tensulite		15.00 @	—
Glues, extra white	lb.	.20 @	.29
medium white	lb.	.19 @	.25
common bone	lb.	.14 @	.15
Magnesia, carbonate	lb.	.08½@	.11
Mica, powdered	ton	90.00 @	100.00
Rotten Stone (powdered)	lb.	.02½@	.04½
Soapstone, powdered	ton	15.00 @	22.00
Starch, powdered	cwt.	3.30 @	3.70
Talc, domestic	ton	16.00 @	18.00
Velvetex	lb.	.04 @	.07
Whiting, commercial	cwt.	.85 @	1.00
English cliffstone	cwt.	1.50 @	—
Superfine	ton	10.00 @	12.00
Vansulite	ton	12.00 @	—
Wood pulp XXX	ton	45.00 @	—
Wood pulp X	ton	25.00 @	—
Zinc Carbonate	lb.	.10 @	.12

MINERAL RUBBER

Genasco (factory)	ton	50.00 @	52.00
Montezuma, solid	ton	28.00 @	36.00
Montezuma, granulated	ton	32.00 @	42.00
Paradura	ton	62.50 @	65.00
Pioneer, MR, solid	ton	41.00 @	43.00
Pioneer—granulated	ton	51.00 @	53.00
Robertson, MR, solid	ton	34.00 @	80.00
M.R. (gran)	ton	34.00 @	80.00

SOFTENERS

Acids			
Nitric, 36 degrees	cwt.	5.00 @	5.25
Sulphuric, 60 degrees	ton	10.50 @	11.50
66 degrees	ton	15.00 @	16.00
Tartaric, crystals	lb.	.31½@	—
Acids, Fatty			
Stearex	lb.	.10 @	.14
Stearic, single pressed	lb.	.10 @	.11
Double pressed	lb.	.11½@	.12
triple pressed	lb.	.13½@	.14
Alkalies			
Caustic soda, 76%	cwt.	3.76 @	3.91
Soda ash, 58% C.L.	cwt.	1.42½@	1.45
Oils			
Castor, No. 3 bbls.	lb.	.12 @	.13
Corn, crude, bbls.	lb.	.09¾@	.10
refined	lb.	.11 @	—
Cottonseed, crude		.08½@	—
Cycline	gal.	.27 @	.34
Dispersol A (light)	lb.	.15 @	.16
Dispersol B (dark)	lb.	.14 @	.15
Fluxrite	lb.	.05 @	.06
Glycerine, C.P. drums	lb.	.26 @	.26½
Linseed, Raw C.L. bbl.	lb.	.09½@	.10
Palm Lagos	lb.	.07¼@	.07½
Niger	lb.	.07¾@	.08
Vansulol	lb.	.10½@	—
Para-Flux	gal.	.17 @	—
Peanut, domestic, crude	lb.	.11 @	—
Petrolatum, white	lb.	.08⅞@	.09
amber	lb.	.03¾@	.04
dark amber	lb.	.03⅝@	.03½
Pine, steam distilled	lb.	.67 @	.69
Rapeseed, refined	gal.	.82 @	.83
Rosin, first rectified	gal.	.55 @	—
second rectified	gal.	.58 @	—
Resins and Pitches			
Pitch, Burgundy	lb.	.06½@	.07½
coal tar	gal.	.05½@	.06
pine, 200 lb. gr. wt.	bbl.	9.00 @	10.00
Rosin, grade K, 280 lb.	bbl.	8.95 @	—
Pigmentar	gal.	.33 @	.41
Tar Retort, 50 gal.	bbl.	13.00 @	14.00
Solvents			
Acetone, pure	lb.	.14½@	—
Alcohol denatured, No. 1 bbls.	gal.	.37½@	.44½
Benzol, 90%	gal.	.28 @	—
pure		.29 @	—
Carbon bisulphide	lb.	.05½@	.06¼
Carbon tetrachloride		.06¾@	.07½
Motor gasoline, steel bbls.	gal.	.17 @	—
Naptha, V. M. & P.	gal.	.14 @	—
Turpentine, spirits	gal.	.54 @	.55
wood	gal.	.42 @	—
Waxes			
Beeswax	lb.	.58 @	.60
Carnauba	lb.	.40 @	.50
Ceresin, white	lb.	.13 @	.14
Montan, crude	lb.	.07 @	.07½
Ozokerite, black	lb.	.30 @	—
green	lb.	.26 @	.30
Miscellaneous			
RSL Mold Solution	gal.	.75 @	.100

ANTI-OXIDANTS

Antox	lb.	.79 @	.83
Neozone	lb.	.74 @	—
Stabilite	lb.	.65 @	—
VGB	lb.	.55 @	.66

SUBSTITUTES

Black	lb.	.08 @	.14
White	lb.	.10 @	.16
Brown	lb.	.10 @	.15

VULCANIZING INGREDIENTS

Sulphur Chloride (drums)	lb.	.03½@	.06
Sulphur flour,			
Superfine bags	cwt.	2.20 @	2.80
Superfine, bbls.	cwt.	2.55 @	3.10
100% pure, refined, bags	cwt.	2.60 @	3.15
bbls.	cwt.	2.95 @	3.50

TIRES & TUBES
CRUDE RUBBER

STATISTICAL SECTION

AUTOMOBILES
GASOLINE

THE impetus which the appearance of the new Ford has given to industry in general and to the rubber manufacturing industry in particular, is becoming evident in the renewed factory interest in all the markets closely associated with rubber goods production. Reports from the tire manufacturing centers indicate a resumption of production to near capacity schedules and while the consumption of crude rubber was still low during November, the industry will undoubtedly absorb a good sized tonnage during the current month in spite of holiday slow-downs. Crude rubber arrivals during November were high and brought the figures of stocks on hand up to a new record peak. On the other hand, stocks in London have showed a slight decline. The market, however, has not been affected either one way or the other by crude rubber's present statistical position and trading while active, has been done within narrow limits of fluctuations.

Rubber shipments invoiced to the United States continue high. The curtailments in automobile production during November is reflected in the low figures covering rim inspections and in the figures issued by the Rubber Association covering the October production of tire casings and inner tubes.

Latest figures covering imports and exports and the market quotations during the fortnight for ribbed smoked sheets in both New York and London, together with spot cotton prices and rubber stocks on hand in the United States, London and Sinapore are included in the following tables.

PLAN OF THE SECTION

The statistics included in this section have been chosen for their constant importance to the rubber industry. The tables are reprinted in the same relative position in every issue, each table being kept current by the addition of new figures as soon as they become available. The section accordingly affords the most up-to-date, complete and convenient statistical service in the industry.

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U. S. Imports and Exports of Crude Rubber

	Gross Imports			Re-exports			Net Imports
YEARS	Long Tons	Total Declared Value	Average Declared Value per pound Cents	Long Tons	Total Declared Value	Average Declared Value per pound Cents	Long Tons
1921	185,394	73,772,677	17.76	5,716	2,414,924	18.86	179,678
1922	301,076	101,843,188	15.10	4,809	1,921,828	17.84	296,267
1923	309,144	185,060,304	26.72	8,772	5,672,319	28.87	300,372
1924	328,056	174,231,331	23.71	10,309	6,057,637	26.23	317,747
1925	396,642	429,705,014	48.36	14,827	19,847,753	59.76	381,815
1926	413,338	505,817,807	54.63	17,671	22,470,583	56.77	395,667
1925:							
Jan.	32,898	22,406,756	30.41	1,162	963,593	37.02	31,736
Feb.	24,696	18,532,115	33.50	979	779,406	35.53	23,717
Mar.	33,072	25,146,691	33.94	1,345	1,105,119	36.69	31,727
Apr.	32,506	24,874,562	34.16	1,130	1,009,305	39.86	31,376
May	36,932	30,311,754	36.64	1,203	1,323,445	49.12	35,729
June	31,569	26,855,883	37.98	1,198	1,577,106	58.75	30,371
July	32,455	33,701,723	46.36	1,278	2,132,681	74.52	31,177
Aug.	33,412	39,834,348	53.22	1,131	1,623,258	64.08	32,281
Sept.	26,367	36,686,013	62.11	1,154	1,820,360	70.41	25,213
Oct	34,651	50,027,338	64.45	1,132	1,989,291	78.43	33,519
Nov.	37,755	56,271,963	66.54	1,605	2,898,930	80.65	36,150
Dec.	40,329	65,055,868	72.02	1,510	2,625,259	77.61	38,819
1926:							
Jan.	42,404	72,528,151	76.36	2,084	3,747,505	80.28	40,320
Feb.	32,865	58,733,370	79.78	1,430	2,280,168	71.17	31,435
Mar.	42,152	70,589,581	74.76	1,836	2,735,234	66.51	40,316
Apr.	34,544	48,742,539	62.99	1,128	1,605,093	63.58	33,416
May	29,756	36,896,080	55.35	1,052	1,558,987	66.17	28,704
June	24,900	34,498,561	61.85	1,105	1,371,217	55.41	23,795
July	35,820	33,061,470	41.20	1,554	1,743,854	50.09	34,266
Aug.	27,400	24,670,752	40.21	1,318	1,339,563	45.38	26,082
Sept.	37,112	32,625,032	39.02	1,437	1,519,870	47.20	35,675
Oct.	29,333	25,300,483	38.50	1,366	1,316,270	43.02	27,967
Nov.	38,925	34,661,631	39.97	1,482	1,320,461	42.00	37,443
Dec.	37,754	33,261,366	39.33	1,904	1,841,305	43.16	35,850
1927:							
Jan.	43,340	36,753,719	37.99	1,526	1,444,734	42.22	41,814
Feb.	28,338	23,110,257	36.41	2,451	2,277,297	41.47	25,887
Mar.	35,514	28,693,026	36.07	2,763	3,249,665	52.50	32,751
Apr.	46,202	37,284,806	36.15	1,575	1,428,425	40.45	44,627
May	36,543	30,998,657	37.87	2,782	2,501,562	41.74	33,761
June	33,045	27,833,770	36.23	1,775	1,550,592	38.99	31,270
July	37,678	31,678,259	37.53	1,958	1,560,853	35.58	35,720
Aug.	32,810	26,396,904	36.59	1,809	1,382,768	34.49	31,001
Sept.	33,301	23,852,857	33.73	3,500	3,036,929	34.91	29,801
Oct.	30,184	22,163,044	32.77	2,513	2,042,713	36.29	27,671
Nov.*	37,735	26,706,558	31.60				

*Official estimates based on arrivals at New York and Boston.

U. S. Consumption of Crude Rubber

(Rubber Association of America statistics raised to 100 per cent—All figures in long tons)

Figures on Monthly Basis

	1921	1922	1923	1924	1925	1926	1927
January	5,045	16,938	30,106	29,058	29,638	32,196	31,518
February	5,955	14,767	30,149	25,736	29,761	31,136	30,137
March	9,190	21,408	36,629	28,385	33,498	32,936	36,141
April	13,084	19,294	29,085	27,129	34,139	32,696	35,871
May	16,023	23,246	36,155	25,845	35,322	29,364	34,592
June	16,142	31,713	24,272	22,753	35,822	28,598	33,801
July	18,310	24,522	17,685	23,396	36,053	27,577	29,219
August	23,649	29,361	20,359	28,982	35,909	34,533	33,460
September	16,705	24,410	17,594	31,497	31,691	32,904	27,214
October	16,814	26,881	21,321	31,520	29,047	29,836	26,790
November	14,105	24,950	20,437	27,289	28,853	28,080	26,792
December	15,482	25,070	21,902	27,199	28,748	26,293	
Totals	170,504	282,560	305,694	328,769	388,481	366,149	

Figures on Quarterly Basis

Quarter	1921	1922	1923	1924	1925	1926	1927
Jan./Mar.			96,776	87,609	95,263	94,301	99,216
Apr./June	65,463	127,360	89,493	75,674	104,099	87,109	103,242
July/Sept.			55,621	83,813	99,493	93,793	89,893
Oct./Dec.	105,962	155,067	63,617	92,656	85,789	85,212	
Totals	171,425	282,427	305,507	339,752	384,644	358,415	

Note—The Rubber Association estimates its monthly rubber consumption figures to be 90 per cent complete. Up until 1925 the quarterly figures were likewise estimated to be 90 per cent complete; beginning with 1925 an estimate of 92 per cent completeness has been used. These estimates have been used in raising the figures in this table to 100 per cent. The quarterly figures are generally regarded as the most authentic; the monthly figures may be accepted as preliminary.

Rubber Invoiced to the U. S.

(Reported by American Consuls—Quantities in Long Tons)

During the Week Ended	From Br. Malaya	From Ceylon	From Dutch East Indies	From London & Liverpool	Total
October 8	4,629	754	1,621	115	7,119
October 15	4,573	861	1,170	1,596	8,200
October 22	4,514	690	1,833	922	7,959
October 29	2,903	858	1,208	810	5,779
November 5	4,902	611	2,850	938	9,301
November 12	2,956	631	1,593	1,032	6,212
November 19	4,579	651	1,051	451	6,732
November 26	4,014	779	1,588	1,945	8,326
December 3	6,348	847	1,641	943	9,779
December 10	5,014	709	2,890	635	9,248

Daily Spot Closing Prices of Ribbed Smoked Sheet Rubber—*New York Market, in Cents per Pound*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Ave.
1925																																
January		35⅞	29⅞	—	39	39	39¼	38⅛	38⅝	38⅝	—	37⅞	36½	36½	35	35⅞	35⅝	—	34⅞	34⅞	35	35⅞	36¼	36¼	—	35⅞	35⅛	35	35⅛	—	39⅞
February	—	—	35⅞	34¾	34½	34½	35⅞	35¾	35⅞	35¾	35¾	—	35⅜	36	35⅜	36	35⅞	—	36⅜	36⅜	36⅜	—	—	37⅛	37⅛	37⅞	37⅞	37⅛	38⅛	—	—	36
March	—	—	35⅞	35⅞	35⅞	—	—	42⅝	39⅞	39⅞	40⅛	39⅞	40⅜	40⅛	—	40⅜	40½	41	41⅜	41⅜	41⅜	—	42½	42⅜	43⅞	43⅞	43⅞	43½	—	—	42⅜	41
April	—	41¼	41⅛	41⅞	41⅞	42⅝	42⅝	43⅞	43⅞	44⅜	—	59	57	59⅜	60⅜	64⅜	71⅞	72⅝	73⅝	75½	76¼	121	117⅞	119	117⅞	112¼	82⅝	85⅛	82⅝	89⅝	93¾	103⅛
May	—	45	46⅝	—	46⅞	47¼	47¼	48⅜	50⅜	52⅜	74	76⅜	74⅜	74⅜	74⅜	71⅞	71⅞	72⅝	73⅝	73⅝	116⅝	116⅝	116⅝	82½	82½	82½	89⅝	89⅝	87⅛	90	83
June	—	72	74⅜	75¼	75¼	75¼	75¼	74⅜	73⅜	74⅜	99⅜	106⅞	75¼	77⅜	77⅜	110⅞	110⅞	105⅜	80⅜	80⅜	77⅜	80⅜	82½	93½	93½	89⅜	89⅜	89⅜	91⅛	91½	88⅝
July	—	81⅞	85⅞	—	88⅜	88⅜	90½	95⅜	94⅝	95⅜	71⅝	72⅝	76½	81⅞	80⅝	92⅜	92⅜	94⅜	94⅜	92⅝	92⅝	94⅜	94⅜	99	101¼	102	110⅛	110⅛	109⅜	106¼	—	—
August	—	87¼	85	—	85⅝	86⅜	81⅝	79	78¼	80½	92½	92	97⅝	95½	97	99⅜	99⅜	99	107	109⅜	110⅜	110½	109⅜	109	110½	110½	107½	108⅝	108⅝	91	91¼	98½
September	—	88⅛	87⅛	—	88⅜	88⅜	81⅜	81¾	99¼	101	—	105⅛	104⅝	105½	—	101	99¼	90¼	93	85⅛	86⅜	88¼	85⅜	85⅜	85⅜	85⅜	85⅜	85⅜	85⅜	85⅜	85⅜	85⅜
October	—	91¼	91⅜	—	94½	94½	97	97	98¾	100	—	108	109	109¼	106	105½	105½	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
November	—	—	99¾	—	98⅜	98¾	100	100¾	—	98¼	99½	100¾	101¾	104½	105½	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
December	—	106⅜	108½	107¾	107¾	108¼	—	108	—	109¼	106	105½	105½	—	101	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1926																																
January	—	—	—	87	87¼	85½	86½	87½	87⅝	—	88½	88¼	88¼	85½	84⅝	82½	—	75½	75½	75½	72	72½	—	68	68	66½	67	69¼	70½	69	—	—
February	—	67	66¼	66¾	68	69	—	—	67	65	66	66	65½	—	—	60½	60½	60	59	60	61½	62	61	55	52	51¾	51	—	—	59½	58½	62¼
March	—	55	58	—	53½	57¼	58	56	55½	61	60	63	61½	62	62	60½	60½	62	61	61	61½	61	60	60	59	59½	60	48	49	48	58	59
April	—	—	59	—	60	58	59	58	53	53	56	51½	50½	49¼	47½	48½	47	47	47½	48½	47½	47½	48	49	48	48	48	48	49	48	58	58
May	—	48½	—	—	50¼	49¾	49¾	49¾	49¾	49	49½	49	48½	47¾	47½	47½	47	47	47½	47½	47½	47½	47½	46	46	45	45	46	45	48	48½	51¼
June	—	41½	42	—	42	42	41½	41½	41½	42	43	—	—	41¾	42	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	47½	47¼
July	—	42	42	—	42	42	41½	41½	41½	43½	41½	41	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	42½	42½
August	—	38⅜	38½	—	37	37	38¼	39	40¼	38¼	37¾	37½	38¼	38½	38	38	38	38	38	38	38	38	38	41½	41½	41½	41½	41½	41½	41½	41¼	41¼
September	—	40¼	40¼	—	—	—	43¾	42¾	42½	—	40¼	40¼	40¼	40¼	40¼	40¼	40¼	40¼	40½	40½	41	41½	41½	39	39	39	39	39	39	39	39	39½
October	—	43	—	—	—	—	42¾	42½	—	—	42¾	42½	42¾	42¾	42¾	42¾	42¾	42¾	42¾	42¾	42¾	42¾	42¾	42¾	42¾	42¾	42¾	42¾	42¾	42½	42½	42½
November	—	41¼	—	41	41¼	41¼	41½	—	41½	42¾	41½	41½	41½	41½	41½	41½	41¼	41¼	42⅜	42⅜	42⅜	42⅜	42⅜	42⅜	42⅜	42⅜	42⅜	42⅜	42⅜	42⅜	42½	42½
December	—	36¾	37½	37½	37½	37½	—	37	37	37	37	37	37	37	37½	37½	37½	38	38	38	38	38	38½	38	38	38	38	38	38	37	37	38½
1927																																
January	—	—	—	38½	39	39	40¾	40¾	40¾	40½	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾
February	—	87⅜	87⅜	40¼	37½	—	—	40¾	37⅝	38	37⅝	37⅝	37⅝	37⅝	37⅝	37⅝	37⅝	37⅝	37⅝	37⅝	37⅝	37⅝	37⅝	37⅝	37⅝	37⅝	37⅝	37⅝	37⅝	37⅝	37⅝	37⅝
March	—	39⅝	40	40¼	41	41	40¾	40¾	40⅝	40¾	40¾	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼
April	—	41¼	—	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼
May	—	40½	40¼	40¾	40¾	40½	41	41	41	41	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾	40¾
June	—	40¼	40¼	40¾	40¾	40½	—	39¾	39¾	39¾	39¾	39¾	39¾	39¾	39¾	39¾	39¾	39¾	39¾	39¾	39¾	39¾	39¾	39¾	39¾	39¾	39¾	39¾	39¾	39¾	39¾	39¾
July	—	85½	—	—	—	—	—	85¼	84¾	84¾	84¾	84¾	84¾	84¾	84¾	84¾	84¾	84¾	84¾	84¾	84¾	84¾	84¾	84¾	84¾	84¾	84¾	84¾	84¾	84¾	84¾	84¾
August	—	85⅝	85⅝	85⅝	85⅝	85⅝	85⅝	85⅝	85⅝	85⅝	85⅝	85⅝	85⅝	85⅝	85⅝	85⅝	85⅝	85⅝	85⅝	85⅝	85⅝	85⅝	85⅝	85⅝	85⅝	85⅝	85⅝	85⅝	85⅝	85⅝	85⅝	85⅝
Sept.	—	84	83¾	—	—	—	—	—	83⅝	83⅝	83⅝	83⅝	83⅝	83⅝	83⅝	83⅝	83⅝	83⅝	83⅝	83⅝	83⅝	83⅝	83⅝	83⅝	83⅝	83⅝	83⅝	83⅝	83⅝	83⅝	83⅝	83⅝
Oct.	—	33⅝	—	—	—	—	—	—	33⅞	33⅞	33⅞	33⅞	33⅞	33⅞	33⅞	33⅞	33⅞	33⅞	33⅞	33⅞	33⅞	33⅞	33⅞	33⅞	33⅞	33⅞	33⅞	33⅞	33⅞	33⅞	33⅞	33⅞
Nov.	—	35	35¼	—	35¼	35⅞	—	—	36¾	—	37	36⅜	36¼	36¼	36½	36¼	36¼	36¼	36¼	36¼	36¼	36¼	36¼	36¼	36¼	36¼	36¼	36¼	36¼	35¼	—	35¼
Dec.	—	40½	40¼	—	—	—	—	—	40½	40	40	40¼	40¼	40½	40	40¼	40¼	40¼	40¼	40¼	40¼	40½	40½	40½	40½	40½	40½	40½	40½	40	—	—	—

Average Spot Closing Prices—Ribbed Smoked Sheets

(New York Market)

Average Price per Pound for Years 1910-1921

Year	Cents	Year	Cents	Year	Cents
1910	206.60	1914	65.33	1918	60.15
1911	141.30	1915	65.85	1919	48.70
1912	121.60	1916	72.50	1920	36.30
1913	82.04	1917	72.23	1921	16.36

Average Monthly Price per Pound Since 1922

Months	1922 Cents	1923 Cents	1924 Cents	1925 Cents	1926 Cents	1927 Cents	1928 Cents
Jan.	18.82	32.73	25.86	36.71	79.50	38.75	
Feb.	16.12	35.14	25.29	36.01	62.25	38.25	
Mar.	14.53	34.21	22.83	41.00	59.00	41.04	
Apr.	15.99	32.48	22.51	43.64	51.25	40.86	
May	15.25	27.39	18.89	58.47	47.75	40.76	
June	15.11	26.88	18.81	77.26	42.50	37.25	
July	14.67	26.10	22.16	103.16	41.03	34.44	
Aug.	13.93	28.84	26.17	82.99	38.50	35.12	
Sept.	14.44	28.95	27.56	88.88	41.00	33.67	
Oct.	19.78	26.93	31.13	98.01	42.50	34.32	
Nov.	23.88	27.14	34.33	104.80	38.50	37.58	
Dec.	27.42	26.60	37.88	98.51	38.25		
Average for Year	17.50	29.45	26.20	72.46	48.50		

London Closing Prices of Ribbed Smoked Sheet

(In Pence Per Pound)

Sixth Restriction Year—First Quarter

Day	Nov.	Dec.	Jan.	Day	Nov.	Dec.	Jan.
1	16⅞	19⅝	—	17	17⅜	19½	—
2	16⅞	19½	—	18	18⅛	—	—
3	17	19½	—	19	18¼	—	—
4	17¼	—	—	20	—	—	—
5	17½	19⅝	—	21	18⅛	—	—
6	—	19⅞	—	22	18½	—	—
7	17½	19¾	—	23	18⅞	—	—
8	17½	19⅝	—	24	19⅜	—	—
9	17¾	19⅝	—	25	19½	—	—
10	17⅜	19¾	—	26	19⅞	—	—
11	17½	—	—	27	—	—	—
12	17½	19½	—	28	20	—	—
13	—	19½	—	29	19⅞	—	—
14	17⅝	19⅜	—	30	19½	—	—
15	17¾	19½	—	31	—	—	—
16	17⅞	19½	—				

(The average price for the period for which daily prices are reported above is approximately 18.991 pence. The British Colonial Secretary has announced that only 60% of the standard production will be exportable from the restricted area during the next quarter if the price during the entire current quarter does not average at least 21 pence.)

Average Price in Previous Quarters

Quarter	1922-23	1923-24	1924-25	1925-26	1926-27
November-January	14.285	14.175	17.9983	46.709	19.265
February-April	16.858	12.917	19.356	28.103	19.696
May-July	14.242	10.947	38.469	21.001	18.165
August-October	14.944	14.632	43.269	20.199	16.620

Spot Closing Cotton Prices

(Middling Upland Grade—New York Market)

Recent Daily Price Per Pound

Day of Month	Nov. Cents	Dec. Cents	Day of Month	Nov. Cents	Dec. Cents	Day of Month	Nov. Cents	Dec. Cents
1	20.75	19.65	11	20.25	——	21	20.30	——
2	21.30	19.85	12	20.30	18.70	22	20.00	——
3	21.15	19.95	13	——	18.60	23	19.90	——
4	21.20	——	14	20.05	19.00	24	——	——
5	21.25	19.65	15	20.20	19.25	25	19.90	——
6	——	19.80	16	20.10	19.40	26	19.75	——
7	21.25	19.65	17	19.75	19.45	27	——	——
8	——	19.15	18	19.80	——	28	19.30	——
9	20.25	19.35	19	19.80	——	29	19.40	——
10	19.85	19.25	20	——	——	30	19.50	——
						31	——	——

Average Monthly Price Per Pound

Month	1925 Cents	1926 Cents	1927 Cents	Month	1925 Cents	1926 Cents	1927 Cents
Jan.	23.99	20.85	13.42	Aug.	23.72	18.57	20.04
Feb.	24.70	20.60	14.10	Sept.	23.79	17.02	21.95
Mar.	25.64	19.35	14.32	Oct.	21.77	13.14	20.55
Apr.	24.54	19.13	14.75	Nov.	20.94	12.86	20.22
May	23.41	18.92	16.07	Dec.	20.06	12.68	
June	24.13	18.57	16.85	Average			
July	24.68	18.71	18.00	for Year	23.45	17.53	

Stock of Crude Rubber in the U. S.

(All Quantities in Long Tons)

At	ON HAND			AFLOAT			ON HAND AND AFLOAT		
End of	1925	1926	1927	1925	1926	1927	1925	1926	1927
Jan.	60,870	55,198	76,172	36,759	46,296	45,312	97,629	100,434	121,484
Feb.	54,109	58,035	91,186	41,475	46,935	42,166	95,584	104,970	133,352
March	52,494	61,822	85,740	40,577	43,567	49,600	93,071	105,389	135,340
April	50,143	55,261	92,757	53,465	41,905	38,963	103,608	97,166	131,720
May	52,064	64,360	94,563	46,846	40,303	44,181	98,910	104,663	138,744
June	50,997	60,460	89,250	51,202	40,907	47,233	102,199	101,367	136,483
July	46,245	64,900	98,469	46,003	38,062	40,587	92,248	102,962	139,056
Aug.	42,354	60,870	96,148	41,254	37,360	40,937	83,608	98,230	137,085
Sept.	36,367	62,078	97,829	55,151	42,464	37,966	91,518	105,542	135,793
Oct.	34,085	64,089	97,452	51,098	52,930	42,804	85,183	117,919	140,256
Nov.	34,885	69,385	101,034	42,692	47,311	37,076	86,577	116,696	138,110
Dec.	51,215	72,520		48,208	52,020		99,423	124,540	

(Rubber Association of America figures raised to 100%.)

Stock of Crude Rubber in London

(No. of tons in Wharves and Warehouses, including Latex)

At end of:	1920	1921	1922	1923	1924	1925	1926
January	19,300	56,573	67,252	73,498	57,460	27,172	9,994
February	18,329	59,439	67,623	70,483	56,732	23,425	10,005
March	18,969	63,913	66,670	63,438	55,647	18,104	13,750
April	20,072	68,759	68,637	58,770	54,559	12,949	18,951
May	20,921	70,403	70,146	54,439	51,615	5,895	20,896
June	22,517	69,408	71,597	51,050	51,115	5,318	23,894
July	25,346	71,065	71,515	49,937	52,073	4,258	27,727
August	30,674	73,211	72,112	48,427	49,700	4,619	30,764
September	35,504	72,175	70,977	54,523	44,011	5,453	35,077
October	41,743	69,229	68,536	58,891	37,523	5,086	42,141
November	45,550	70,786	68,548	60,074	33,593	3,869	44,057
December	50,652	69,792	72,299	60,246	29,488	5,697	48,921

At End of Recent Weeks

	First Saturday	Second Saturday	Third Saturday	Fourth Saturday	Fifth Saturday
1927					
January	48,948	50,756	52,484	53,662	54,786
February	55,740	56,939	56,962	58,659	—
March	59,945	61,516	61,300	63,167	—
April	62,634	63,861	65,033	65,511	67,034
May	68,187	68,041	66,668	67,054	—
June	67,105	67,454	66,894	64,486	—
July	63,917	64,163	63,511	62,819	63,626
August	64,177	64,557	64,842	64,259	—
September	65,162	66,148	66,664	67,253	—
October	68,519	70,167	70,916	70,060	69,551
November	69,660	69,501	69,850	67,318	—
December	65,869	66,011	—	—	—

Rubber in Singapore and Penang

(Stocks held by Dealers—Quantities in Long Tons)

End of	1925	1926	1927	End of	1925	1926	1927
Jan.	15,925	16,726	25,440	July	15,894	23,101	22,558
Feb.	17,320	13,653	26,766	Aug.	17,251	23,362	25,764
Mar.	17,261	18,389	27,844	Sept.	16,526	25,997	25,178
Apr.	15,868	16,328	24,543	Oct.	15,346	26,614	25,790
May	15,804	16,967	25,133	Nov.	19,788	25,486	28,369
June	15,884	19,416	21,898	Dec.	18,840	26,443	

Rims Inspected and Passed in U. S.

(Tire and Rim Association Reports)

	Total	Per Cent Balloons		Total	Per Cent Balloons
1923	23,140,620	0.6	1925	26,001,664	66.8
1924	21,863,311	19.7	1926	24,199,524	78.8
1927			1927		
January	1,489,078	77.0	July	1,679,587	84.4
February	1,753,224	84.4	August	1,825,905	80.2
March	2,071,989	85.1	September	1,727,122	77.7
April	2,060,868	88.0	October	1,354,924	81.4
May	2,169,208	86.9	November	838,591	67.8
June	1,871,538	77.0	December		

U. S. Consumption of Gasoline

(In Barrels of 42 Gallons)

MONTHS	1924	1925	1926	1927
January	11,918,000	14,386,000	17,582,000	17,888,000
February	9,626,000	13,210,000	15,814,000	18,240,000
March	10,961,000	14,890,000	19,302,000	22,464,000
April	14,583,000	19,013,000	20,848,000	23,371,000
May	15,889,000	20,459,000	24,213,000	26,579,000
June	16,421,000	20,724,000	23,803,000	27,799,000
July	18,610,000	22,879,000	24,752,000	29,784,000
August	19,825,000	22,323,000	26,912,000	29,779,000
September	16,871,000	20,177,000	22,929,000	28,409,000
October	18,029,000	19,826,000	23,973,000	25,497,000
November	16,607,000	18,024,000	20,618,000	
December	15,663,000	17,954,000	21,419,000	
TOTAL	185,003,000	223,865,000	262,165,000	

U. S. Tire and Tube Statistics

(All Figures Represent Thousands)

AUTOMOBILE CASINGS

Figures for Recent Years

	1922	1923	1924	1925	1926
Production	40,932	45,259	51,633	60,845	61,237
Shipments	39,987	45,204	50,120	59,262	59,002
Inventory[2]	6,132	5,772	7,427	8,142	10,456

Figures for Recent Months

	PRODUCTION			SHIPMENTS			INVENTORY		
	1925	1926	1927	1925	1926	1927	1925	1926	1927
Jan.	4,740	4,587	4,965	4,013	2,974	4,932	7,949	9,947	10,432
Feb.	4,908	4,865	5,095	3,924	3,436	4,458	8,928	11,164	11,075
Mar.	5,276	5,456	6,276	4,657	4,561	5,701	9,510	12,004	11,583
Apr.	5,341	5,346	6,299	5,498	4,980	5,701	9,088	12,461	12,122
May	5,467	5,023	6,151	5,954	5,211	5,657	8,611	12,343	12,462
June	5,418	5,422	6,202	6,737	5,724	6,253	7,243	11,968	12,462
July	5,587	4,950	5,087	6,298	6,337	5,973	6,421	10,592	11,326
Aug.	5,607	5,872	5,752	4,760	6,744	6,393	7,261	9,732	10,721
Sept.	5,007	5,706	4,822	4,569	6,040	5,717	7,681	9,318	9,722
Oct.	4,505	5,103	4,777	5,580	4,544	4,799	6,670	9,917	9,667
Nov.	4,229	4,324		3,671	3,733		6,955	10,297	
Dec.	4,760	4,683		3,601	4,718		8,142	10,456	

AUTOMOBILE INNER TUBES

Figures for Recent Years

	1922	1923	1924	1925	1926
Production	50,850	60,116	70,706	82,614	76,618
Shipments	49,673	59,072	68,016	81,004	71,591
Inventory[2]	7,643	8,425	11,052	11,313	16,200

Figures for Recent Months

	PRODUCTION			SHIPMENTS			INVENTORY		
	1925	1926	1927	1925	1926	1927	1925	1926	1927
Jan.	6,343	6,809	5,337	5,576	3,723	6,016	11,570	14,361	15,585
Feb.	6,339	6,825	5,658	4,971	3,736	5,120	13,023	17,090	16,075
Mar.	7,000	7,030	7,184	5,711	4,987	6,157	14,236	19,131	17,096
Apr.	6,851	6,554	7,373	6,704	5,051	6,359	13,618	20,674	17,801
May	6,846	6,149	6,737	8,040	6,304	6,140	12,501	21,141	18,389
June	6,942	6,171	6,306	9,032	6,898	6,832	10,409	20,243	17,858
July	7,544	5,729	5,284	9,140	8,569	7,070	8,635	17,267	16,004
Aug.	7,618	7,424	6,480	6,923	9,579	7,983	9,271	15,462	14,664
Sept.	7,254	7,590	5,651	6,665	7,762	6,758	9,950	15,312	13,511
Oct.	6,612	6,208	5,065	7,845	5,474	5,024	8,726	15,929	13,539
Nov.	6,266	4,852		5,406	4,045		9,491	16,604	
Dec.	6,999	5,277		4,991	5,463		11,313	16,200	

(1) Rubber Association of Amreica figures, raised to 100%. The Association estimates its figures to be 75% representative or complete when issued and that basis has been accepted when preparing the statistics in this table.

(2) Held by manufacturers at end of period indicated.

Automobile Production

	Passenger Cars			Trucks		
	Total	United States	Canada	Total	United States	Canada
1920	1,883,158	1,799,522	83,636	322,039	311,531	10,508
1921	1,514,000	1,452,902	61,098	147,550	142,402	5,148
1922	2,397,827	2,302,923	94,904	251,434	244,285	7,149
1923	3,719,164	3,589,936	129,228	378,288	361,078	17,210
1924	3,262,764	3,144,999	117,765	378,106	360,625	17,481
1925	3,817,639	3,678,328	139,311	498,019	475,941	22,078
1926						
January	284,703	272,922	11,781	33,461	29,763	3,698
February	334,524	319,763	14,761	41,685	37,608	4,077
March	399,105	381,116	17,989	49,233	44,848	4,385
April	401,836	383,907	17,929	53,887	50,314	3,573
May	394,569	373,140	21,429	51,343	47,838	3,505
June	358,360	339,542	18,818	47,043	44,110	2,933
July	328,816	315,863	12,953	41,847	39,592	2,255
August	393,040	380,258	12,782	47,907	45,404	2,503
September	363,537	350,913	12,624	51,299	46,428	4,871
October	300,142	289,547	10,595	46,965	42,890	4,075
November	226,278	219,504	6,774	39,410	36,356	3,054
December	143,413	137,361	6,052	30,002	28,302	1,700
TOTAL	3,928,323	3,766,336	161,487	534,082	493,453	40,629
1927						
January	208,718	196,973	11,745	40,874	37,243	3,631
February	275,458	260,632	14,826	41,947	38,118	3,829
March	360,754	341,665	19,089	48,590	45,056	3,534
April	373,961	353,071	20,890	48,216	44,495	3,721
May	374,259	352,268	21,991	47,890	44,173	3,717
June	290,188	273,718	16,470	43,003	40,265	2,738
July	242,144	233,425	8,719	32,249	29,981	2,268
August	281,464	271,325	10,139	34,552	31,715	2,837
September	233,694	225,013	8,681	35,145	32,564	2,581
October	191,942	185,706	6,236	37,141	35,586	1,555
November						
December						

Exports of Crude Rubber from Principal Producing Countries

(*Long Tons*)

	BRITISH MALAYA[1]								DUTCH EAST INDIES[2]						
	Gross Exports	Gross Exports Minus Imports		Ceylon[2]	India & Burma[3]	Sarawak[4]	British North Borneo[4]	Siam[4]	Java & Madura	Sumatra E. Coast	Other D.E.I.	Indo-China[5]	Amazon Valley[6]	All Other[6]	World Total[7]
		Imports													
1923	252,016	70,432	181,584	39,971	6,416	5,705	4,237	1,718	32,930	46,344	57,822	5,067	16,765	7,856	406,955
1924	259,706	108,524	151,182	39,997	7,697	6,699	4,621	2,962	42,446	54,497	80,347	6,688	23,165	9,065	429,366
1925	316,825	158,022	158,803	49,566	10,082	5,424	5,377	5,377	46,757	65,499	120,626	7,881	25,298	13,797	517,523
1926:															
Jan.	30,452	10,237	20,215	4,246	1,273	416	472	289	4,110	6,239	8,165	866	1,284	1,805	49,380
Feb.	30,440	8,306	22,134	5,120	725	488	450	253	4,524	5,717	6,854	554	2,759	1,978	51,556
Mar.	35,012	14,800	20,212	5,177	1,113	792	561	418	4,527	5,566	11,984	573	2,126	1,899	54,948
Apr.	23,727	10,565	13,162	3,766	590	679	374	293	4,226	4,598	6,285	410	2,318	1,529	38,230
May	31,231	10,604	20,627	3,944	691	927	410	279	4,440	5,358	8,737	502	1,353	1,464	48,732
June	30,624	11,764	18,860	4,208	452	779	512	275	4,444	6,125	10,614	549	1,218	1,279	49,310
July	28,824	15,280	13,544	4,422	938	911	498	439	4,618	5,612	13,112	1,521	1,565	1,148	48,328
Aug.	34,625	13,595	21,030	5,666	521	890	476	316	4,132	5,699	10,390	378	1,888	1,097	52,483
Sept.	35,913	13,972	21,941	6,015	651	888	689	457	4,065	6,568	11,391	681	2,156	822	56,324
Oct.	39,367	15,203	24,164	5,672	634	805	473	385	4,058	6,998	11,491	661	1,904	1,023	58,268
Nov.	34,302	12,201	22,101	4,228	1,110	685	547	285	3,988	5,816	9,422	718	1,911	1,259	52,070
Dec.	36,811	14,716	22,095	6,498	1,176	895	617	338	5,054	7,117	12,786	790	3,821	714	61,901
	391,328	151,243	240,085	58,962	9,874	9,155	6,079	4,027	52,186	71,413	121,231	8,203	24,298	16,017	621,530
1927:															
Jan.	34,946	14,995	19,951	6,697	921	959	585	304	4,184	6,705	10,541	941	2,885	981	55,654
Feb.	27,528	11,607	15,921	3,571	1,469	552	445	360	4,707	6,526	10,634	675	2,082	1,098	48,040
Mar.	41,346	17,464	23,882	7,142	1,124	997	639	432	5,657	7,003	12,490	733	3,208	1,791	65,093
Apr.	29,041	13,069	15,972	3,349	723	984	452	526	4,666	5,530	10,035	557	2,374	1,495	46,663
May	31,893	15,491	15,902	3,124	760	786	415	348	5,430	5,528	14,099	586	2,431	1,207	50,616
June	32,607	14,706	17,901	3,348	856	1,100	539	409	4,818	5,519	9,402	772	1,030	1,706	47,400
July	23,947	12,697	11,250	4,018	827	859	500*	333	4,771	6,140	11,663	519	1,713	1,115	*43,708
Aug.	30,371	17,105	13,266	5,357	688	1,133	500*	546	4,355	6,683	12,054	716	2,004	969	*48,271
Sept.	29,835	12,095	17,740	4,911	479	645	500*	498	3,635	6,052	10,059	497	2,474	1,000*	*48,490
Oct.	29,846	15,801	14,045	5,245		721	500*	452				775	2,704		
Nov.	28,277	19,860	8,417									683			
Dec.															

(1) Mayalan net exports cannot be taken as production, since imported rubber is largely wet native rubber, which is reduced about one-third in weight by remilling; rubber exported as latex is not included which on a basis of 3½ pounds per gallon amounted to 115 tons in 1923, 1,117 in 1924, 3,618 in 1925, and 3,263 in 1926. (2) Ceylon Chamber of Commerce statistics until 1926; rubber exported as latex is not included—such shipments were equivalent to 18 tons in 1923, 93 tons 1924, 6 tons 1925, and about 20 tons in 1926. (3) Official statistics. (4) Imports into Singapore and Penang. (5) Exports from "Other D.E.I." are chiefly wet native rubber, which is reduced about one-third in weight by remilling; rubber exported as latex is not included which on a basis of 3½ pounds per gallon amounted to 2,342 tons in 1923, 1,008 tons 1924, 2,239 tons 1925, and about 60 tons in 1926. (6) Calculated from official import statistics of principal consuming countries, viz., United States, United Kingdom, France, Germany, Italy, Belgium and Netherlands. This figure includes guayule rubber. (7) This total includes the third column for British Malaya, "Gross Exports minus Imports," and all the figures shown for the other territories. *Figure is provisional; final figure will be shown immediately it becomes available.

Net Imports of Crude Rubber into Principal Manufacturing Countries

(*Long Tons*)

	United States*	United Kingdom	France (h)	Germany	Canada (ac)	Japan (ac)	Italy	Russia (ce)	Australia (ed)	Belgium (d)	Netherlands	Scandinavia (abcdf)	Spain (g)	Czechoslovakia (abcd)	World Total
1919	236,977	42,671	17,685	5,584	6,395	9,753	9,894	75	1,002	3,995	2,771	3,149	2,418	9	342,378
1920	248,762	56,844	13,885	11,890	11,746	5,297	6,123	62	1,815	3,840	5,510	2,292	2,008	567	370,641
1921	179,678	42,087	15,135	21,920	8,124	21,713	3,906	165	1,014	1,705	1,022	1,279	2,245	569	300,562
1922	296,267	11,724	24,352	27,546	9,207	15,934	6,430	2,493	2,643	172	-3,807	1,778	589	567	395,885
1923	300,372	12,700	27,392	18,519	13,277	15,372	8,489	2,986	1,649	2,184	792	2,528	630	1,128	408,018
1924	317,747	-11,550	30,446	22,727	14,299	19,571	8,764	2,346	3,124	2,688	-807	3,178	944	1,370	414,847
1925	381,815	4,061	32,956	33,937	19,683	11,117	11,412	7,088	4,757	2,930	875	3,149	1,155	1,558	516,493
1926	395,667	84,865	34,240	22,775	20,229	18,125	9,809	6,529	9,021	2,498	2,670	4,046	1,299	1,870	613,643
1926:															
January	40,345	6,886	2,832	703	2,188	892	760	332	438	76	163	303	89	134	56,141
February	31,435	3,114	3,063	1,113	1,865	741	1,041	643	512	143	88	397	145	75	44,375
March	40,316	8,907	3,941	1,342	2,079	864	1,037	832	547	129	227	377	109	161	60,868
April	33,416	8,275	4,121	1,781	1,615	1,868	865	402	505	71	93	335	130	193	53,670
May	28,705	6,773	2,519	1,848	1,239	1,010	705	200	468	186	241	225	60	192	44,371
June	23,795	5,894	2,196	1,655	1,188	1,465	1,070	983	636	269	215	303	123	103	39,9[illegible]
July	34,266	6,768	2,352	2,202	1,552	1,447	800	132	702	295	480	292	121	115	51,5[illegible]
August	26,081	7,327	2,457	2,110	1,888	1,284	796	655	1,275	303	594	336	90	151	45,347
September	35,675	8,843	1,774	2,029	1,355	1,922	819	472	1,241	283	429	317	91	138	55,388
October	23,110	8,082	3,376	2,423	1,865	2,396	645	585	1,004	301	2	360	100	121	49,370
November	37,673	9,247	2,719	3,007	1,548	3,380	832	568	916	194	-18	358	90	181	60,695
December	35,850	4,749	2,890	2,562	1,847	856	439	725	777	248	156	443	151	306	51,999
1927:															
January	41,815	10,192	3,284	2,481	1,936	1,227	672	803	929	296	181	316	139	100	64,371
February	25,886	7,692	3,263	3,103	2,620	1,902	601	907	460	502	153	336	146	210	47,781
March	32,752	9,049	2,050	3,475	3,760	1,578	852	784	780	454	86	385	137	127	56,026
April	44,627	7,875	2,310	2,393	1,509	2,181	781	1,972	762	448	58	230	177	218	65,541
May	33,761	2,896	2,006	3,380	2,519	1,084	918	887	694	633	-57	335	155	223	49,434
June	31,270	2,282	2,387	3,632	2,086	798	942	1,506	557	575	-16	243	164	183	46,609
July	35,720	1,116	2,384	2,946	2,104	1,505	1,007	415	900	436	66	227	177	236	49,239
August	31,001	3,463	2,795	3,119	2,013	1,970	1,274	386	650	604	-63	312	138	123	47,785
September	28,704	7,800	1,956	2,891	1,850	2,025	684	518	750	552	-32	451	155	272	48,576
October	27,671	5,888		4,202	1,790	1,966		1,075			156				
November															
December															

a—Including gutta percha. b—Including balata. c—Re-exports not deducted in monthly statistics. d—Including some scrap and reclaimed rubber. e—United Kingdom exports to Russia, and beginning with October, 1927, exports from the United States to Russia. f—Including Norway, Sweden, Denmark and Finland. g—United Kingdom and French exports to Spain except in years prior to 1925. h—French imports have been reduced 12 per cent in order to eliminate imports of gutta percha and to reduce to basis of net weight. *United States imports of guayule are not included in this compilation; such imports amounted to 4,305 tons in 1926 and averaged about 400 tons monthly during the first ten months of 1927.

BOOK REVIEWS

USE AND CARE OF AUTOMOBILE TIRES, Circular of the Bureau of Standard, No. 341, Department of Commerce, 1927. 27 pages.

This useful circular, containing considerable needful information relative to tires in general and pointing out certain precautions essential to the proper use and care of tires, is profusely illustrated and is one of the most complete publications written for the layman which has been contributed in the field of tire handbooks, etc. Brief reference is made in the booklet to the essential characteristics of fabric tires, cord tires, inner tubes, cushion and solid tires with detailed instructions for the proper mounting of pneumatic tires. Tables of recommended loads and inflation pressures are included together with a general discussion of the injurious effects of overloading and under-inflation. Various types of injuries to tires and their causes are illustrated and described, and the paper concludes with a list of suggestions and recommendations for the use and care of tires in general.

The circular can be purchased from the Superintendent of Documents, United States Government Printing Office, Washington, D. C., at the price of 15 cents per copy.

* * *

INSTITUTION OF THE RUBBER INDUSTRY—LIST OF MEMBERS—1st November, 1927. Published at London. 40 pages.

This annual publication of the list of members of the Institution of the Rubber Industry, of London, is coming to hold a place of importance as the Who's Who of British crude rubber production and rubber manufacturing. The pamphlet besides giving a complete alphabetical list of members, carefully classifies the membership by manufacturers of rubber, compounding ingredients, machinery and molds, fabrics, etc. It also lists separately the plantation company members and their estate managers, brokers and dealers and rubber goods factors who are also members of the Institution. Honorary members, diploma members and scientific, engineering and technology associates are also given.

A table incorporated in the pamphlet shows briefly the necessary requirements for election to each class of associate membership or fellowship. A tabulation of the membership by classes shows the interesting fact that the combined membership has reached the figure of 1,882, of which 118 are manufacturing members, 55 are merchants associated with the industry, and 869 are rubber shareholders.

The position of president of the Institution is at present held by The Right Honorable Lord Colwyn, P. C.

* * *

DAY RUBBER MACHINERY, Published by the J. H. Day Company, Cincinnati, Ohio. Bulletin No. 5, 1927. 12 pages.

This is the latest circular of the J. H. Day Company and describes in detail the various machinery units manufactured by them for the rubber industry, including mixers and compounding ingredient outfits.

* * *

BUFLOVAK IMPREGNATING APPARATUS, Published by the Buffalo Forge & Machinery Company, Buffalo, N. Y. Bulletin No. 220, 1927. 32 pages.

The above company has just issued this new catalog covering the impregnating machinery and vulcanizing equipment which they are supplying to the rubber manufacturing industry. Besides a detailed description of the various apparatus the booklet calls attention to various improvements made in the equipment.

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